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Send Today for the New Benjamin
Football Lighting Manual! Includes
Complete Details On Benjamin's

NEW *Waterproof* ALZO-LITE

Medium Spread and Long Range

These new Benjamin Waterproof Alzo-Lites which eliminate the possibility of rain, fog, mist, moisture, dust or dirt from penetrating the interior of the floodlight, again demonstrate the leadership of Benjamin, the pioneer in football field floodlighting.

By preventing moisture, etc. from entering the interior of the floodlight, bulb breakage due to condensation is eliminated—fogged reflectors due to atmospheric action and dirt is prevented—thus maintenance and cleaning costs are reduced and floodlight failure at games is minimized.

Complete details of the new Alzo-Lite, as well as the many other Benjamin Football Field Floodlighting units, are contained in the new Benjamin Football Lighting Manual. This Manual shows you the importance of Benjamin lighting principles in obtaining glareless, shadowless illumination of all sides of both players and ball—lighting that enables both players and spectators to follow plays easily.

The Manual also provides you with complete data and information on many outstanding layout plans developed by Benjamin lighting engineers... installation information... principles of illumination design... answers to many important questions you may have on football field floodlighting. Your copy will be gladly sent to you by mailing the coupon or written request. The services of your local Benjamin Distributor and the Benjamin Engineering Department in planning your lighting layout are also available without cost or obligation.

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Important ALZO-LITE Features—Reflector of Alzak Aluminum has polished section behind lamp, etched section at sides for both long range and lateral light distribution. *Entire Unit Waterproof*—impervious to leakage and seepage. *Hinged Cover* provides for easy, rapid servicing. *Removable Hood Construction* makes it possible to clean or service reflector on the ground. *Available in Medium Spread type for fields where poles are 30 to 50 feet back and Long Range type for use where poles are behind stands from 55 to 150 ft. from the side lines... 750-1500 watts.*

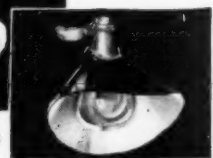
There Is a Benjamin Unit to Meet Every Lighting and Budget Requirement

BENJAMIN "PLAY-AREA" FLOODLIGHT.

A wide angle diffusing floodlight especially designed for illuminating sports and recreational areas. Porcelain enameled steel reflector combined with inner reflector of oxidized aluminum provide adequate, uniform illumination to front and side of unit as well as high levels of illumination at distant points. Unique hood construction permits reflector removal for easy cleaning on the ground.



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for lighting a large area with inner auxiliary reflector of Alzak aluminum which furnishes high intensity spotlight beam.

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TRADE MARK

LIGHTING EQUIPMENT

SCHOLASTIC COACH

Reg. U. S. Pat. Off.

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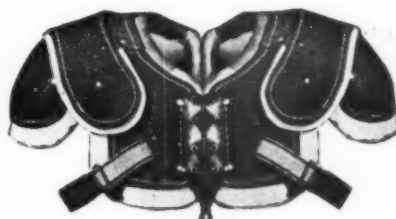
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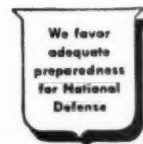
When a man or a concern makes a name for integrity and the ability to produce a better product, that name becomes worthy of public confidence. And the product that carries it embodies a plus value—gives more for the money because of the public faith in it.

Wilson Official Last-Bilt Basketballs have all the advantages of perfect roundness—of absolute balance and long playing life that this modern Last-Bilt process makes possible.

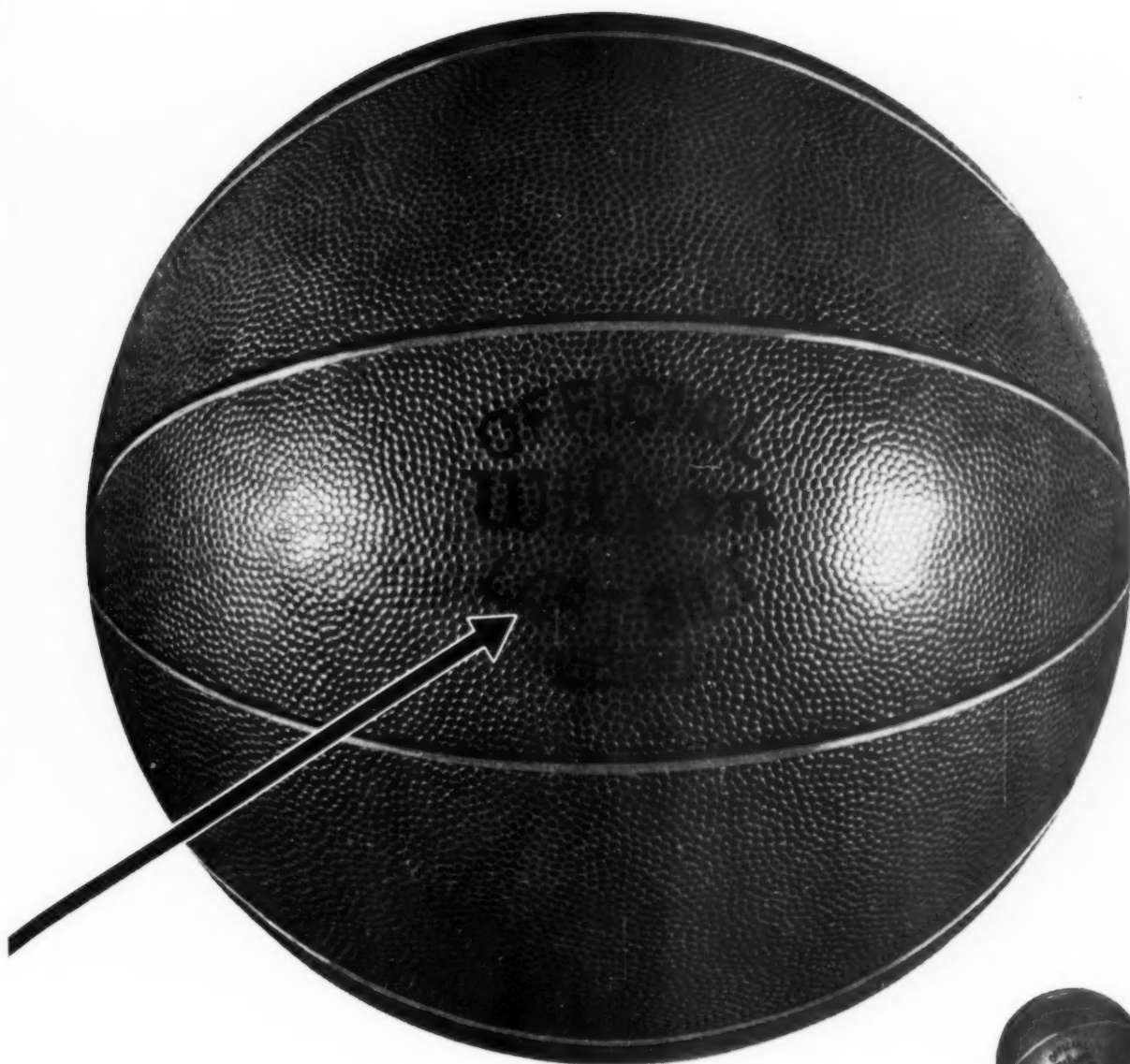
But added to these finer structural features is the prestige of the *name* "WILSON"—a name that today stands for leadership in the minds of thousands upon thousands of sports equipment users.

Win with Wilson. Enjoy "Plus Value" in your purchase and in your *play* by using the WILSON Last-Bilt Basketball this season. Wilson Sporting Goods Co., Chicago, New York and other leading cities.

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IT'S WILSON TODAY IN SPORTS EQUIPMENT



Outstanding Wilson-Approved Features for Better Play...

The Wilson Official Last-Bilt Basketball has the enthusiastic endorsement of experts and players.

This new-type Wilson-approved Basketball definitely promotes better basketball because it's the *perfectly round* ball. No other ball can equal it.

Perfect roundness is obtained by the famous Wilson "Last-Bilt" Process in which a *seamless* ball is built over a rigid, spherical last of absolute roundness.

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Good for a full season's play because there are no stitches, seams or edges to wear out. Two rubber valves, on opposite panels, contribute to perfect balance and practically eliminate valve repair.

An aid to better play and a decided economy. See a Wilson dealer or write.

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Wilson OFFICIAL LAST-BILT BASKETBALL

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YOU can keep mosaic, ceramic, or vitrified tile looking like new by cleaning your pool with Tilite. A twofold chemical-mechanical cleaning action makes it easy to do, for Tilite goes to work on imbedded dirt as well as surface dirt, and saves time and labor.

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dangerously slippery. Economical to use. Packed in 50, 150, and 300 lb. drums.

Perchloron efficiently takes care of pool sanitation. Use it on the walls after cleaning with Tilite, and for chlorination of the water itself. Containing more than 70% available chlorine, it is a strong sanitizing agent, and it also helps control slime and algae growths. In addition, it combats and controls athlete's foot when placed in shallow rubber trays through which swimmers must step. Many pools use it for disinfecting locker rooms and washrooms.

Perchloron is a dustless, free-flowing granular material from which the chlorine is readily dissolved in water. It keeps well and holds its strength. Packed in handy cans with airtight replaceable covers, 9 cans to the case.

Perchloron



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PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals

NEW EQUIPMENT

Fan-Shaped Backboard

With the old rectangular-shaped basketball bank apparently on the way out, the J. E. Porter Corp. is now featuring the streamlined, fan-shaped backboard that was approved by the National Basketball Committee for the coming season. The face of the board is made of solid steel and will retain its perfect banking surface forever. Painted an eggshell white, it is absolutely glare-proof. Solid steel braces are arc-welded to the rear face of the bank, unifying the assembly and completely eliminating vibration. The new goal is all-steel, electric-welded, strong and durable, made to maintain a perfect circle in perfect alignment with the bank. Absolutely free of imperfections, it costs less than the old bank! Installing the new bank is simple. In almost every instance the existing backstop framework, after adjustment, is completely satisfactory.



Odorless Disinfectant

Showersan, the West Disinfecting Co.'s new odorless disinfectant, is designed as an aid in the prevention of athlete's foot and for general disinfecting purposes. It can be used in a solution of two ounces to a gallon of water. It also has these important advantages: It is effective in a two per cent solution of water; it is completely odorless; it will soak in the cracks, breaks and crevices if given adequate time of moist contact; it will not deteriorate upon standing.

New Basketball Bank

The Fred Medart Mfg. Co., pioneers in the field of streamlined backboards, are now marketing a one-piece, steel backboard and goal that meets all the official requirements. Constructed entirely of steel, with steel bracing reinforcements, the new fan-shaped board has many superior features. It contains all the space which is needed for banking purposes and no sharp corners or edges to injure the ball. This permits freer use of the four-foot end space, increased visibility of the basket from all corners and ends of the gym and increased area under the basket from which a goal may be made.



Enclosed Floodlight

To meet the growing demand for effective, efficient floodlighting in the field of night-time sports and in industries in which protective lighting is considered a necessity, the Revere Electric Co. has developed a new "4200" Series Enclosed Floodlight. The "4200" is very attractive, the exterior design and finish presenting an excellent example of modern engineering methods. A reflector of Alzak aluminum is used with the choice of etched or polished surface for wide or narrow beam coverage. The entire interior of the floodlight is protected by means of an asbestos gasket embedded in the rim of the reflector. Every feature to aid setting and serving has been included, such as degree markings for set focusing, hinged lens and cover for easy access to lamp and interior.



Rubber Covered Bats

The Safebat Co. has a rubber-covered softball bat on the market which will drastically reduce bat accidents. The Safebat has a rigid core completely covered with molded rubber and a non-slip rubber grip which will greatly reduce the possibility of the bat slipping from a player's hands. The core is practically indestructible, and the rubber covering prevents splintering, makes the bat weather-proof and will wear like a rubber tire.

History of Sports

FOOTBALL

VOL. 1
NUMBER 2



Football originally played by ancient Greeks and Romans, called "Harpaston"

Football was first played by the ancient Greeks. To start play, a member of one team threw the ball (probably a leather-covered animal bladder) as far as possible into enemy territory. Scoring was done by kicking the ball across the goal line. Carrying the ball was illegal. The number of players on a team and the size of the playing field varied.

Gradually the game spread to Rome and other countries, and the rules changed. Players wore helmets, knee braces and elbow pads of steel. The object was not to win on points but to put opposing players "out of action." There were no officials—players settled arguments in their own way. The game finally became so rough—and so many army men were injured—that Caesar banned it.

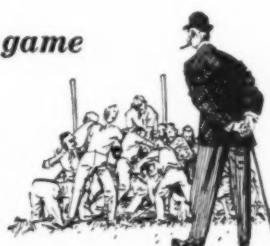


Game at first banned in England . . . later developed into Rugby

The game was banned in England through the reign of Henry VII. Henry II decreed that boys should master archery for military purposes, although they much preferred football. By 1603, however, England was using gun powder for war purposes instead of the bow and arrow. James I therefore permitted football (under revised rules) and the game of Rugby became very popular. All scoring was done by kicking, until one day a young player named Ellis—angered by his inability to kick the bounding ball—scooped it up and raced across the goal line. This score was not allowed. But, despite many protests, carrying the ball was eventually legalized and the new game of Rugby Football was born. This was the beginning of modern football.

First intercollegiate game in America

The first regular game in the U. S. was played by Rutgers and Princeton in 1869. Spectators were few but enthusiasm ran high. At game time both teams appeared on the field, took off their coats and vests, and were all set. Rutgers players wore red caps. There were 25 men on each team. Goal posts were 25 feet apart, with no cross-bar. Goals were scored by kicking or batting the ball through the posts. Running with the ball was illegal. Six goals constituted a game. In this first game play was rough. The lead see-sawed until Rutgers finally scored the winning goal.



American Football as it is played today

Other colleges soon took up the game which rapidly gained favor. Gradually the rules were changed. The number of players on a team was reduced to 11. Running with the ball became legal. Scoring also was changed—a touchdown counting 6, goal after touchdown 1, and a field goal 3.

In 1905, when the game was on the way out, due to many injuries, drastic changes saved it. Forward passing was legalized. Mass formations were eliminated. Hurdling was banned. Playing time was reduced from 70 to 60 minutes. Thus American football has become the fast, wide open, interesting game it is today.



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INSIST ON BIKE *Formula 87*

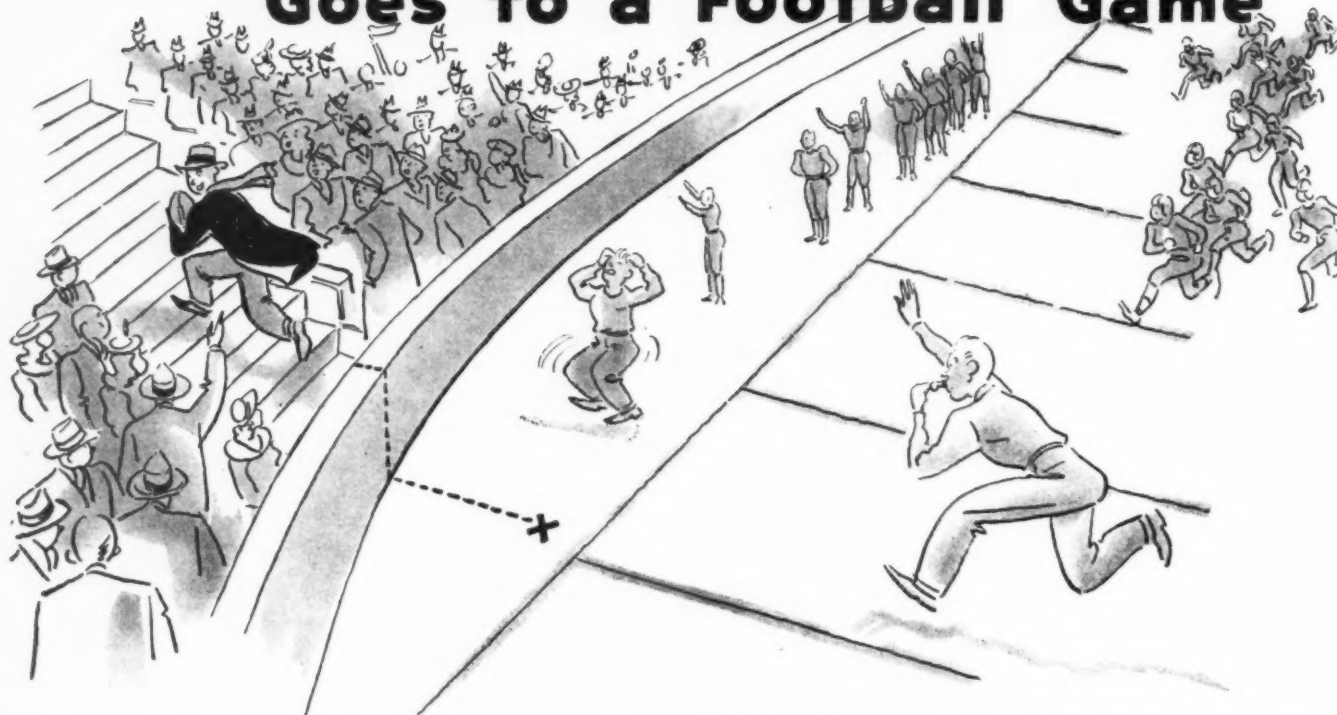
1. Less allergic—the most nearly non-irritating tape Bike has ever made.
2. Long life—exceptional resistance to heat, age and deterioration.
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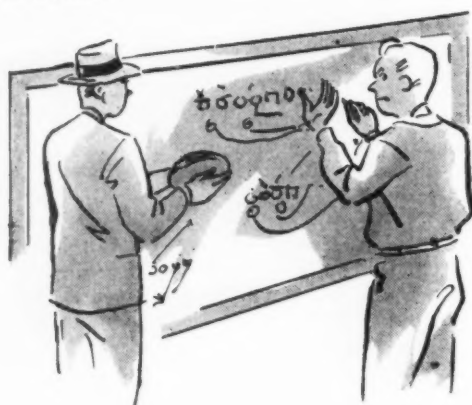
Adhesive tape has played an important part

IN AMERICAN football the development of new and better equipment has played an important part in reducing injuries. And as every coach and trainer knows a good job of protective taping is of vital importance in keeping players on the field. Bike Formula 87 brings to coaches and trainers a greatly improved adhesive tape—the finest adhesive tape that Bike has ever made.

Mr. Grabbit, a Baseball Fan Goes to a Football Game



The referee was plenty sore when Mr. Grabbit grabbed the ball and beat it, but -- was the coach's face red when he found he had no other ball on hand!



Coach Orderlater was right smack behind the old eight ball because he was too busy planning spiffy spinners and flashy flings when the salesman made his call.

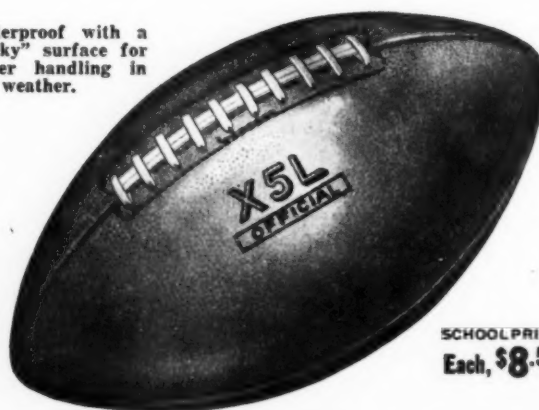
Before the whistle blows in September, you're going to have plenty of last-minute needs. Are you set?

TOPS again in footballs for the coming season . . .

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Preferred
TRADE MARK
OFFICIAL X5L
The Coaches' Choice

Used by leading universities and colleges throughout the country, this ball has won an enviable reputation.

Waterproof with a "tacky" surface for better handling in wet weather.



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Each, \$8.50

THE P. GOLDSMITH SONS INC., CINCINNATI, OHIO U.S.A.

THE mast-head of this issue of *Scholastic Coach* bears a strange but familiar heading (VOL. 10, NO. 1), which, translating from the Roman, means that this is our tenth birthday. And sticking out our chest (we hope not our necks), we are happy to announce that we are quite a lusty baby.

Ah, that first issue, not so many pages and only a self-cover to keep the infant warm. Exactly 12,500 identical twins were distributed to our readers. Things then picked up a bit. We soon got a nice warm jacket and the number of pages and copies steadily increased.

This issue, the greatest (ahem!!) in our brief history, will have a press run of some 18,500 copies. We are quite proud, naturally, but will try our best not to bring the subject up again for another ten years.

EACH fall we have our crop of football movies and they usually follow an old, time-honored pattern. There is the gruff-voiced coach, the handsome half-back, the blocking back who smokes cigarettes, and the campus cutie, with a scene in the girls' dormitory thrown in for more than good measure. And those campus scenes . . . enough is enough.

All this is merely a lead-up to the not-so-secret secret that there will be at least one good football film out this October, *Knute Rockne — All-American*. We saw a sneak preview of it the other day, and were impressed. It's just about the best picture with a football background we have ever seen.

The film traces the life of this almost fabulous coach from his childhood in Norway through his greatest triumphs in America and up to his tragic death in an airplane accident.

Born in a little Norwegian town, the son of a carriage maker, he comes to America as a small boy. His family settles in Chicago, where seven-year-old Knute gets his first taste of football. He gets a big bite, too. He returns home with a broken nose. But he's sublimely happy. He's now a full-fledged left end.

The Rockne proboscis is never set,

Here Below

but it is to become a familiar landmark with the passing of years. Knute earns his college money in a mail loading line at the Chicago post office, and he registers at Notre Dame.

He rooms with Gus Dorais, and



the two become fast friends. Knute is also an exceptional chemistry student. In fact, he's so handy with test tubes and molecules that Father Nieuwland, the great Notre Dame chemist, invites him to work as his assistant during a summer vacation.

Knute, however, turns it down to take a life guard job with his pal, Gus. He accomplishes two things that summer—he cooks up the famous forward pass that is to beat Army the following fall, and he gets pretty Bonnie Skiles' promise to marry him when he graduates.

The rest is well-known history: unknown Notre Dame upsets Army

thanks to the famous Dorais to Rockne pass, Knute joins the Notre Dame faculty as chemistry teacher and assistant football coach, and then, after taking over the head coachship, goes on to compile a great record as a coach and a leader of boys.

The only real football player in the cast, outside of a brief appearance by the great Jim Thorpe, is Nick Lukats, the former Irish back, who impersonates Harry Stuhldre-

her in the Four Horsemen sequences.

However, four famous coaches (in the flesh) put in a stint during a dramatic defense of the game against reactionary forces. Pop Warner, Howard Jones, Bill Spaulding, and Alonzo Stagg unite with Rockne in a five-man line that throws the attack for a fifty-yard loss.

The role of George Gipp, Rock's greatest player, is played by Ronald Reagan, and he turns in a splendid job. The deathbed scene between Gipp and Rockne is beautifully touching. We guarantee it will bring a lump into the throat of the toughest 210-pound tackle you got.

LAST month *Scholastic Coach* lost one of its staff members. John Lindenberg, our advertising manager, died on August 25 after a short illness. Throughout his invalidism, he never lost the spirit that made him liked and remembered by everyone who knew him.

He had a gayness of spirit which made you his friend the moment he sat down alongside your desk. Your

problems were more important than his own.

John Lindenberg came to *Scholastic Coach* from *Time* magazine. Before that he had been on the *New York Times* in charge of college circulation. He was born in Columbus, Ohio, thirty years ago. A graduate of Yale University he played on the varsity football and basketball teams. He was also elected to Delta Kappa Epsilon and to Skull and Bones.

He leaves a widow, Virginia Beathard Lindenberg, and his parents, who live in Columbus.

CONVERSE FOOTWEAR

WHETHER you prefer the basketball court or the football field, you'll play a better game when you're clad in Converse shoes. Converse 1940 models reflect a quarter-century of specialized manufacture of footwear for the athlete, player-tested and field-proven for perfect traction and durability. For better footwork, good friends and good judgment suggest you insist on Converse.



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★ NOW the famous "Chuck" Taylor model ALL STARS are available in a wide range of styles. Just decide for yourself which ALL STAR model, style and color best fits your personal, school or team requirements. Any ALL STAR will give you the perfect combination of fit, traction, wear and comfort. BLACK CANVAS ALL STAR ... America's leading basketball shoe. WHITE OLYMPIC ALL STAR ... This smart white canvas shoe has lots of friends on basketball courts everywhere. BLACK LEATHER ALL STAR ... No finer leather basketball shoe than this model, made of black Kanga yellowback leather. ALL STAR GAME SHOE ... Guaranteed NON-MARKING on any type of floor. COLORED LEATHER ALL STARS available in white, red, blue and green.

CONVERSE

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The Art of Controlled Kicking

By Arnold A. Fenton

The hobby of the late LeRoy N. Mills—instructing high school and college players how to kick a football—is being carried on these days by the Reverend Arnold A. Fenton, rector of Christ Church in Ansonia, Conn. The "kicking parson," who played football at the University of Pennsylvania and rugby at the University of Toronto, was a close friend of Mills, the greatest teacher of them all, and is a disciple of the art of controlled kicking.

In the old days, young America used to kick by the hour and have kicking contests, with mother's clothes-line serving as a crossbar and her clothes-poles as uprights. Today, the boys are not kicking—they are throwing the pigskin around in touch football games.

It is more advantageous to let one good kicker pick up the yardage than to tax the energy of the other ten men trying to "bull" the ball downfield. Picking up yardage by an exchange of punts is easier and leaves the team fresher for the attack when a scoring opportunity



LEFT: For an end-over-end punt, the underseam of the ball is placed directly on the center (instep) of kicking foot.

CENTER: Undersection view of ball as it rests in palm with middle finger pointed along the underseam or center.

RIGHT: Position of the ball for a spiral with the front tip pointing an inch to an inch and a quarter in towards body.

"**W**E HAVEN'T much time for kicking." I have heard that remark made often by college, prep and high school coaches who, even in this enlightened era, have not yet grasped the potentialities of controlled kicking.

A coach who hasn't time for kicking should not be dismayed, comes Saturday, to see an opposing kicker, with scientific and well-planned punting, keep the home team bottled up in its own territory. Too many coaches never get around to kicking on practice days until dusk; and, then, without much instruction, the kickers are ordered to boom a few uncontrolled punts.

I am constantly asked why kicking is below caliber these days in many schools and colleges. My late friend and associate, LeRoy N. Mills, the greatest kicking coach of all time, used to say that too much of the foot had been taken out of football; to which I used to reply that if kicking ever fell into complete desuetude, the gridiron game would have to be renamed, for then it would be a hybrid sport—a cross between baseball, track and wrestling.



SLOW-MOTION kicking to a nearby target will improve timing and accuracy.

This, plus the emphasis placed on running and passing by coaches, probably accounts for the dearth of good kickers.

To the technician, kicking is as valuable in its place as any other element of the game. It isn't just something to use as a last resort to get the ball out of danger on fourth down. It is a ground gainer on par with running and passing, an investment that may pay a dividend in the environs of your opponents' goal line.

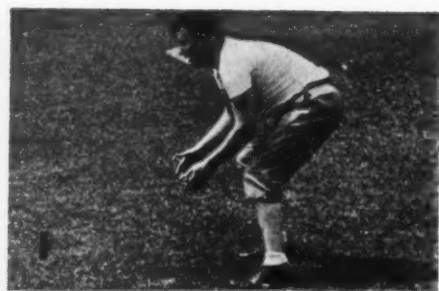
presents itself. This sort of strategy is being plotted by smart coaches and carried out by polished kickers.

Let us see what it takes to turn out the caliber of kicking that paves the way for touchdowns.

Balance: This represents the frame of a car on which the motor is suspended and upon which power and smooth performance depends. Unless a boy has been taught the finer points of proper balance, controlled kicking is impossible. If he starts to kick off balance he will end up even more off balance; and his kicks will have a tendency to hook or back-lash. The boy who tries to kick off balance cannot expect a maximum carry and roll, especially on a quick kick.

When the punter falls back after a kick as the result of poor balance (I have seen poorly-balanced boys actually topple back on the ground), there is a tendency to turn the toe up which acts as a barrier to the ball as it leaves the foot. This, plus the fact that there is no follow through or control of the ball, reduces the kick to its most insignificant dimensions.

The poorest balanced kickers of all are those who leap in the air as



they punt. The kicker, as it is, is at a disadvantage in having only one leg on which to balance. When he elects to take this limb off the ground he loses control. The power he is supposed to generate by this antic is nullified by a back-spin ball or, even worse, a kick that may wind up in the press box. He should be made to realize that his balance foot aims at the target and controls the body as the ball is being booted.

For the best possible balance the kicker should place the kicking foot slightly ahead of the balance foot. A little weight on the kicking foot helps get the kick off a trifle quicker and with more power. The feet should not be too close together or too far apart. Have the boy jockey around with his feet until he arrives at the position that affords him the best balance and comfort. If he can sway around to reach for a poor pass from center without losing his balance, he is probably set in a good, balanced stance.

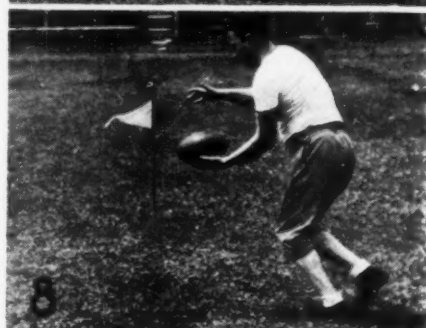
The punter is now ready to receive the ball from center. His body should be completely relaxed and his arms extended waist high and also relaxed so that he will not fumble the ball. The only tension he maintains is in the leg, and especially the ankle, of the kicking foot at the moment of contact. The body is lowered a bit to get it under and behind the punt.

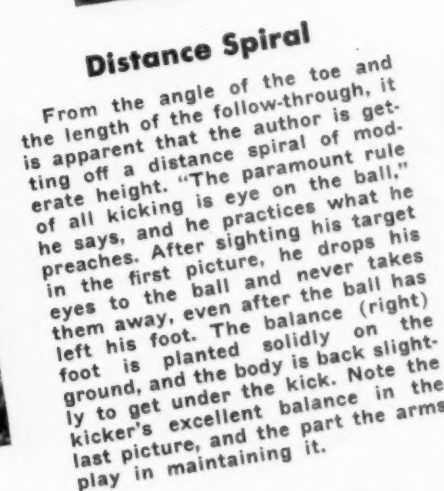
Holding and aiming the ball: Many kickers have weird ways of handling the ball. Most players hold the ball with two hands, one on each side. This has distinct disadvantages. Our arms were given us as stabilizers to help our balance. As a test, try walking with your arms held rigid at the side or extended parallel ahead of you. You will find it difficult to maintain your balance perfectly and walk a straight line. The kicker who holds the ball in both hands faces the same difficulty. I have noted that this type of holder has a tendency at times to throw the ball out and beyond control.

When the ball is held in the palm of the hand with the middle finger
(Continued on page 38)

Quick Kick

In the hands of a trained punter, the quick kick is one of the best of offensive weapons. The pictures offer a splendid study of the correct mechanics of this weapon. By using the white flag as a marker, we can see that the kicker's footwork leaves him no closer to the line of scrimmage at the end of his kick than he was when he received the snap from center. The slightly lowered front tip of the ball in the sixth picture indicates that the quick kick is a low kick, although the follow through in the last picture is longer than the photo would have you believe.





Distance Spiral

From the angle of the toe and the length of the follow-through, it is apparent that the author is getting off a distance spiral of moderate height. "The paramount rule of all kicking is eye on the ball," he says, and he practices what he preaches. After sighting his target in the first picture, he drops his eyes to the ball and never takes them away, even after the ball has left his foot. The balance (right) foot is planted solidly on the ground, and the body is back slightly to get under the kick. Note the kicker's excellent balance in the last picture, and the part the arms play in maintaining it.

From Coaching School Notebooks

Jim Crowley

Reported by Floyd Schwartzwalder
Parkersburg H. S., W. Va.

GENIAL Jim Crowley, the Fordham University grid chief who broke into harness as a member of Notre Dame's immortal Four Horsemen, brought back memories of the Old Master, Knute Rockne, himself, in his lectures and demonstrations on the famous Notre Dame system (with personal variations) at the West Virginia University Coaching School.

Like many other men who learned their football under "Rock," Crowley has kept the standards of the Notre Dame system flying at the top, even though he has made concessions to developments in the game.

Double wingbacks were becoming highly fashionable during the last few years of Rockne's career, largely as a result of the impression Pop Warner's Stanford team made in

with Bernie Bierman's installation at Minneapolis.

The trend from the Rockne brand of football had its defensive as well as offensive aspects. The box secondary behind a seven-man line was held up as a weak alignment against forward passes, and the drifting style of end play was frowned upon. To keep pace with the march of time, many disciples of Rockne began introducing into their systems variations of the standard brand they had learned under Rockne. The seven-man line fell into particular disfavor and, as Crowley's course on defense showed, the 6-2-2-1 and the 6-3-2 defense was substituted.

Crowley believes that, although seventy percent of the practice period should be concentrated on offense, a coach should think mostly in terms of defense at night and off the field. The defense must change from week to week depending upon the type of offense to be encountered. Offensive ideas change more slowly and are more inflexible.

The following factors of the opponents' offense influence Fordham's defensive setup:

1. The attackers have four ways to advance the ball: (a) kicking, (b) thrusting, (c) flanking, and (d) passing.
2. Normal strength and weakness of the various formations.
3. Strength and weakness of personnel.
4. Types of defense used previously.

The coach should ask himself, what can't the offense do from its particular formation. **Diag. 1** outlines a defense against a team which drops into a punt formation on third down.

The left end charges in two yards and watches for a pass or run. The tackles watch the ball. If the fullback receives it, they converge. If the tailback gets the ball, they charge and prepare to drift on a run.

The guards hit and smash if the ball goes to the fullback. They hit and drift if the tailback receives the ball and runs. On a pass, they drop back over center to protect.

The right end starts in; he drifts on wide plays and drops back to the right flat on passes.

The fullback, from a position three yards back, protects on bucks over the guards and reinforces from the inside on plays to the tailback. He covers the left flat on passes.

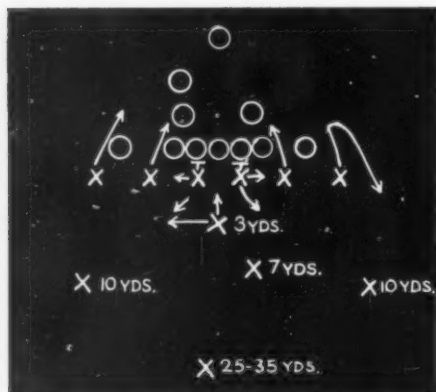
The center lays back seven yards to cover the dangerous center alley on passes.

The halfbacks line up ten yards to the rear and cover zone on passes, giving their original attention to the ends. The quarterback plays about 25 to 35 yards back, according to the tactical situation. Like the halves, he plays zone on passes.

Crowley recommends **Diag. 2** as a defense against a flanker. The left end moves over to cover the dangerous man and keeps his eye on him all the time. Should the play materialize into a pass, he drops back to cover the flat.

The left tackle plays outside the end, giving him the strong leg and using his hands on the wingback. The guards, who drop back on passes, and the right tackle hit and converge on the ball-carrier, using sliding tactics on wide plays.

The right end comes in fast under control, ready to fade on wide plays and hand-fighting the interference to delay the play.

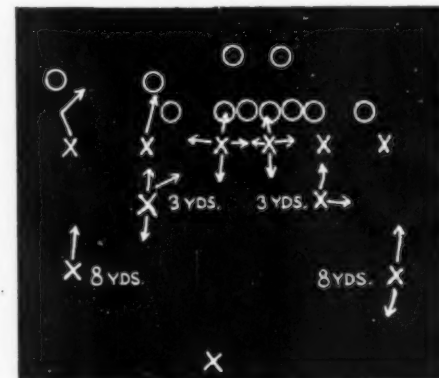


Diag. 1, Defense Against Punt

crushing Army, 26-0, in New York in 1928.

Then there was a falling away from the Stanford Warner attack as it was brought home that the type of material needed for the successful operation of this intricate offense, with its delayed forward movement and multiple handling of the ball, was not as indigenous to the East as to the California of that period.

The waning of the fetish for double wingbacks did not result in a scramble to get back on the Notre Dame bandwagon. Instead the single wing and the short kick came into favor. The great comeback staged by Princeton in 1933-34-35 under Crisler and Wieman created a short kick vogue, while Minnesota football also became popular



Diag. 2, Defense Against Flanker

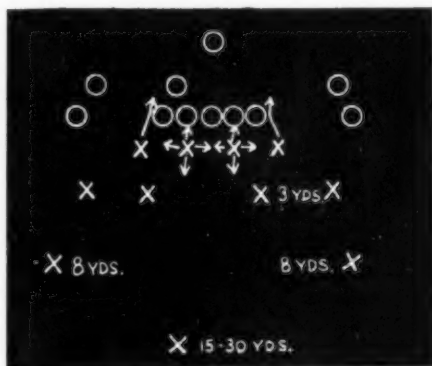
The right halfback takes the offensive end, playing him man to man on passes and coming up fast on reverses. The other halfback plays man to man on the flanker, coming up fast on the outside on wide plays. The quarterback is the long deep man on passes to the right end.

On runs and bucks, the fullback goes into the play. On passes, he drops straight back to play zone. The center comes up on bucks, goes to the inside on reverses and moves over to the short right flat on passes.

In planning a defense against spreads (**Diag. 3**), it should be remembered that this type of formation is weak on wide plays and in the use of ball-handling and mouse-traps. On the other hand, it is well adapted for straight bucks, passes and punting.

When the opponents spread, it is a good idea to use a straight zone pass defense with the tackles doing most of the rushing. If the ball is snapped to the fullback, the four center men hit and converge. Should the ball go to the tailback, the quarter slides. The guards, on passes, may drop back when held up on the line of scrimmage.

In setting up a double wingback formation against which to plot a defense, Crowley chose the Rice Institute offense. It was against Rice

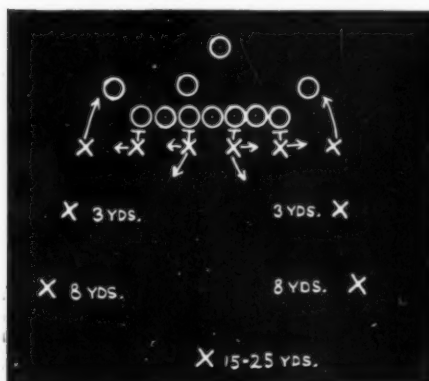


Diag. 3, Defense Against Spread

last year that Fordham unfurled a 6-2-2-1 that stopped Ernie Lain, one of the best passers in the country, cold. Lain, who had a record of over 50 percent successful completions, was only able to connect with three or four minor completions.

The double wingback formation out of which he passed most of the time is outlined in **Diag. 4**, together with the Fordham defense. In Crowley's plan, the ends smashed wide enough to prevent the wingbacks from taking them in, while the tackles, who played head-on with the ends, controlled them and slid with the play.

The guards assumed a fairly upright stance directly in front of the defensive guards. They took a step with the inside leg and made contact with their hands on the opponent's shoulder. They always drifted with a sweep, and to prevent the



Diag. 4, Against Double Wing

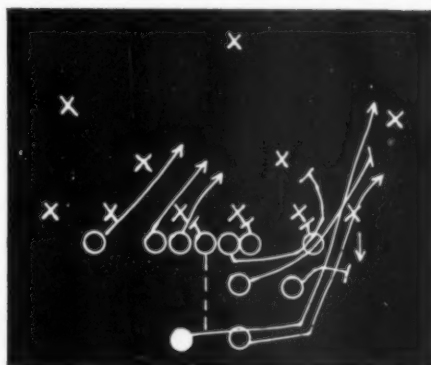
offensive ends from catching short straightaway passes, they both dropped back and to the outside on all pass plays.

The backers-up played three yards back and wide so that they could pick up the wingbacks easily on passes, playing them man to man. When the wingback attempted to block the tackle or end in, the backer-up came up fast on the outside.

The halfbacks lined up eight yards back, playing the ends man to man no matter how they went out and watching for a run when they blocked. The safety man, 15 to 25 yards in the rear, watched for blocking in the deep zones. When he wasn't moving up to help out on running plays, he played zone and the ball on passes.

With both guards and tackles playing head to head with their opponents, the offense only could double team every other man.

After laying out his various defensive formations, the Fordham



Diag. 5, Off-Tackle Play

coach turned all his attention to offense. He diagrammed his plays on the blackboard and then proceeded to break them down into minute detail, describing all the individual assignments.

The first play he outlined was the powerful Notre Dame off-tackle smash (**Diag. 5**). As the ball is snapped back to the tailback on this play, the left end, tackle and guard drive straight through at a 45 degree angle and hit the first man they see in enemy uniform.

The center slides over to the defensive right guard, the right guard pulls out and blocks the defensive fullback to the inside, the right tackle takes the defensive left guard in, and the right end shoulder blocks the defensive left tackle in.

In the backfield, the wingback steps close to the line of scrimmage to get an outside angle on the end, the fullback takes two steps (left-right) and goes up through the hole to lead the play, and the quarterback races through the hole and

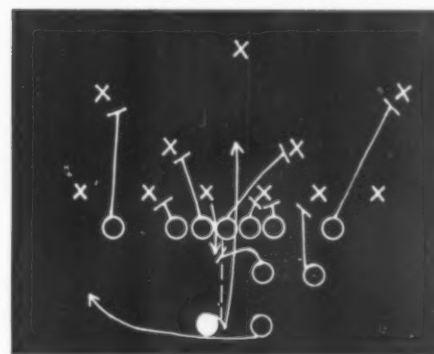


Diag. 6, Inside Tackle

goes for the defensive left half. The tailback (left half), starting with a cross-over step, takes four steps (left-right-left-right) and cuts up the field with the fullback as a personal escort.

The companion piece to this play, the smash inside tackle, is outlined in **Diag. 6**. The assignments here are very much different. The left end goes for the defensive right half, the left tackle takes the defensive right tackle out and the left guard pulls out, goes through the hole and drives the fullback to the outside.

On the strong side, the center slides over to the defensive right guard, the right guard pulls out and helps his quarterback drive the defensive left tackle out with a shoulder-to-shoulder double team, the right tackle drives the defensive left guard in, and the right end fakes at the defensive left tackle and then crosses over to take a



Diag. 7, Delayed Buck

swipe at the center backing up the line.

The wingback, this time, races for the defensive left half while the fullback gets an outside angle on the left end. The left half takes two steps (left-right) and cuts; first, inside the defensive left tackle, and then inside the defensive fullback and away.

Diag. 7 plots the delayed buck with mouse-trap which was good for 65 yards and a touchdown against New York University last

(Continued on page 52)

HEALTH PRACTICES IN ATHLETICS

By C. O. Jackson

Mr. Jackson indicts unsanitary practices in sports and offers a solution to the problem

The keynote for C. O. Jackson's indictment of unsanitary practices in sports was sounded in an editorial by Dr. C. H. Keene in the September, 1937, "Journal of School Health." He wrote: "Absolute ignoring by coaches and by school administrators of the health, physical protection and health education of competitors in athletics, seems a characteristic of a considerable proportion of our secondary schools. . . . If the coaches, physical educators and school administrators are too ignorant or too careless regarding even elementary health protection to bring about a correction of these dangerous practices, it is high time that school physicians, the medical profession and health departments step into the situation and, if persuasion fails, compel more sanitary practices. . . ." Last June, Mr. Jackson, an assistant professor of physical education at the University of Illinois, contributed an interesting article on medical examinations in sports.

DESPITE all the remarkable advances in the field of health and physical education, there still exists a gulf between the theory of health as taught in the classroom and the practice of health in the gymnasium and on the playing field.

The school has an obligation as an educational institution to provide a safe and healthful environment and to set the proper pattern for living. Can a school fulfill this obligation and still ignore the fact that the first cardinal principle of education, that of health, is being violated in the field of sports? If athletics are to be educational and desirable, there must be marked improvement in present health practices.

The prevailing attitude in many schools may best be illustrated by a few specific examples: If an athlete neglects to shower after practice or a game; if he uses the same towel the entire season or shares it with half a dozen other players; if he exchanges shirts, or other articles of equipment, with a replacement in the lineup; if he has athlete's foot or a sore throat—all this is his business. No one interferes as long as his performance as an athlete is not affected.

Similarly, if he fails to protest against practicing in a gymnasium that is poorly ventilated and seldom cleaned; if he is willing to use a dirty shower and locker room; if he shares the communal drinking bottle or dipper; and if, throughout the season, he more or less unconsciously violates other accepted principles of health, that again seems to be a matter of little or no concern on the part of his adult leaders.

How many coaches today provide tissues for his boys and insist that they use them rather than expectorate or blow their noses in back of wall mats, in the corners of the gym or on the floor where a few quick swipes of the feet are supposed to obliterate all traces?

As late as the Civil War, a rather interesting practice existed in many barber shops. If you were a stranger and desired a shave, the barber would ask, "Over spoon, or over thumb?" If you could afford to pay a little extra, you would probably choose, "over spoon." The barber would insert the bowl end of a spoon in your mouth, and proceed to scrape the skin which had thus been drawn tight.

If you could not afford the "luxury" of the spoon, you would answer "over thumb;" and the tonsorial professor would prepare you for the shave by merely inserting his thumb in your mouth, and stretching your cheek in the same highly efficient manner.

Bacteriologically speaking, how much actual difference is there between the common spoon or thumb and the common water bottle, dipper or sponge? The thumb or spoon was probably washed at intervals, but the bottle or dipper remain in service without any attention, until breakage or damage make replacement necessary.

Essential health measures

Can you imagine having just one towel and a tin cup in your home and sharing them with the guests? It just isn't being done, and for excellent reasons. You provide clean linen, clean wash cloths, clean towels, and individual glasses because it is in good taste and accepted as an essential sanitary measure. Is the athlete considered less worthy of such attention?

Even if we overlook both the social and healthful aspects of the problem, we must still consider such practical implications as individual and team efficiency. Just a few years ago at a state teachers college in the East, the football squad was stricken with a severe epidemic of boils. The coach attributed everything to the "faulty diet" of his athletes, but a physician finally traced the spread of infection to towels which all had shared indiscriminately.

After uniforms and equipment

were sterilized and individual towels provided, the boils disappeared. Just last year an entire high school football team in the same state was placed under quarantine because of diphtheric exposure due to the use of the common drinking bottle.

Public health departments throughout the United States long ago outlawed the common drinking cup on all trains and in all public places, thanks to the discoveries of Louis Pasteur and his contemporaries, who pointed out the folly of needlessly exposing ourselves to contagion.

The public schools universally help protect the health of young America by providing sanitary drinking fountains, and even most rural schools require each pupil to provide himself with an individual cup.

The athlete, however, whether in the gymnasium or on the sport field, is all too often exposed to "horse and buggy" practices. At many athletic contests, such things as sanitary drinking facilities are still conspicuous by their absence.

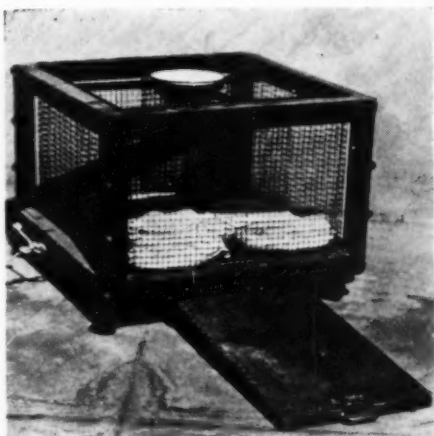
The never-ending, never-dirty, but seldom-clean roller towel was a common eyesore some years ago, not only in the majority of private homes, but in public places, including practically all schools. Today these and allied hazards are no longer approved. In fact, they, too, are banned from all public places. Yet, for some strange reason, many of our athletes are allowed to continue on their way violating all principles of good taste and all precepts of health.

Dr. Reece¹ draws a clever word picture of this paradox, when he writes:

Suppose a team should enter the lobby of a hotel after a long ride on a bus, all grimy and sweaty. Suppose they ordered wet towels to refresh themselves. Suppose the bell-boy gave the wet towel (and only one at that) a careless sling across the dusty floor . . . the team would look on with wondering eyes at this complete unsanitary phenomenon. . . . Suppose the team orders ice water, and the bell-boy comes in with a jug . . . or to make it even more revolting, suppose the bell-boy brought in a bucket with a sponge in it. . . . The management would surely be reported to the health authorities."

(Continued on page 44)

¹Reece, A. S., "Hygiene in the World of Sports," *The First Aider*, November-December, 1939, p. 3.



Courtesy T. S. Storey

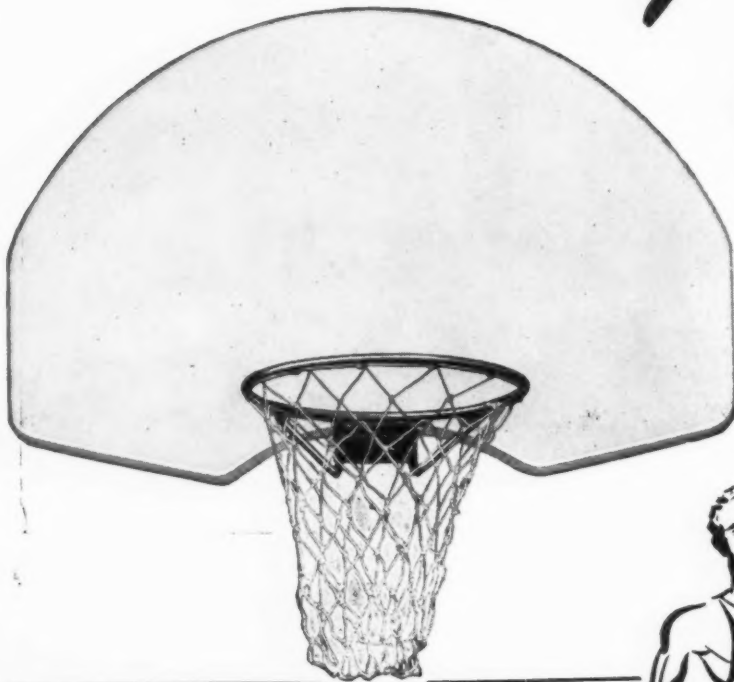


No Contagion Here!

Precautions like these are needed to keep "Mr. Germ" away from your gym door. The wagon at the upper left, used at Stanford University, comes equipped with a receptacle for lemons, a resin board and a storage room for towels. Champaign, Ill., High provides individual towel service with the rack shown at the left. The handy gadget directly below (used at Allerdyce, Pittsburgh) features individual towel spokes, water bottles and paper "spittoons." Granite City, Illinois state champions, protects its players with the combination towel-bottle truck shown directly above. Morris, Ill., uses the rotary towel dispenser at the right, while Aledo, Ill., takes care of the water-towel problem with the device at the lower right.

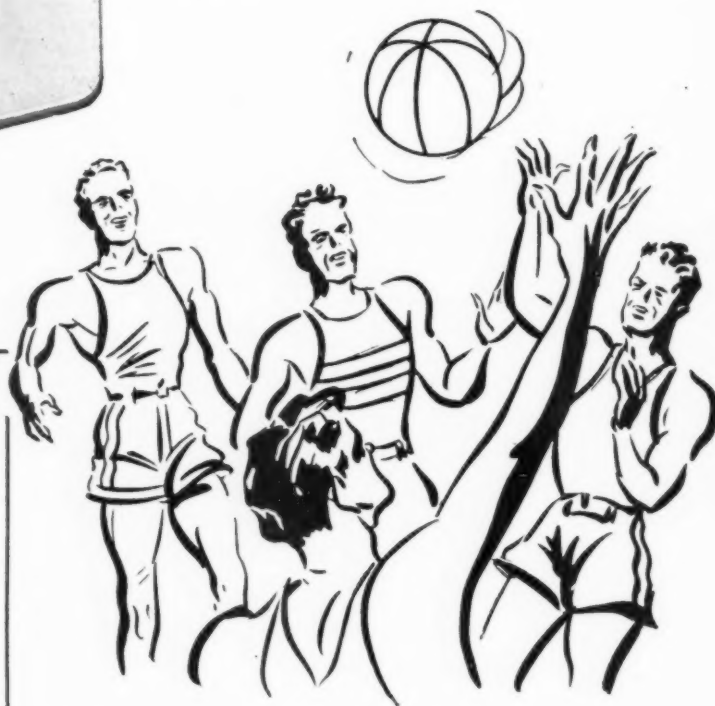


THE NEW *Fan Shaped* BASKETBALL BANK

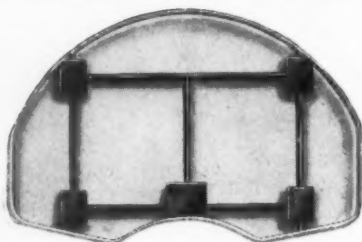


AS LEGALIZED BY THE
NATIONAL BASKETBALL COMMITTEE
OF THE UNITED STATES AND CANADA

—The Rules Authority for the National Federation of State High School Athletic Associations, the National Collegiate Athletic Association, the Y. M. C. A. and the Canadian I. A. U. and A. B. A.



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REAR VIEW showing the sturdy **SOLID STEEL** bracing and attachment plates.

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TEAMS winning basketball laurels this season will be teams which have mastered the new "fan-shaped-bank" style of game. Teams without benefit of practice with the new equipment will be "blitz-krieged." The Porter-made Fan-Shaped Bank is exactly as the National Basketball Committee intended it. It possesses every official feature. But it costs less than the old bank cost, and we allow the freight on every one shipped. Write today and learn the amazing facts!

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GIBNEY BRACE

THE ankle is probably the most commonly injured joint of the body and requires, therefore, a staunch protective support. There are any number of ankle tapings, the best of which are based on the Gibney system of strapping. This simple but highly efficacious scheme is based on the partial overlapping of successive strips which are adjusted in alternate horizontal and perpendicular layers.

The interweaving of the strips produces a checkerwork which gives an exceptionally strong corseting.

In this particular strapping, the trainer uses one and a half inch adhesive. Before the first strip is applied, the leg is shaven with an electric or safety razor and then painted with a tincture of benzoin.

If the athlete is particularly susceptible to skin irritations, the trainer may swab the area to be taped with several applications of the tincture. The tincture contains alcohol which evaporates after being swabbed on the leg, and covers it with a coating of benzoin. The coating protects the skin from the adhesive.

The leg is now ready for the first strip. From a point about eight inches up the inside of the leg, the tape is drawn down under the heel (second picture) and about 12 inches up the outside of the leg (third picture). The first horizontal strip is applied in the fourth picture, running from the big toe around the heel and up the other side of the foot in line with the little toe.

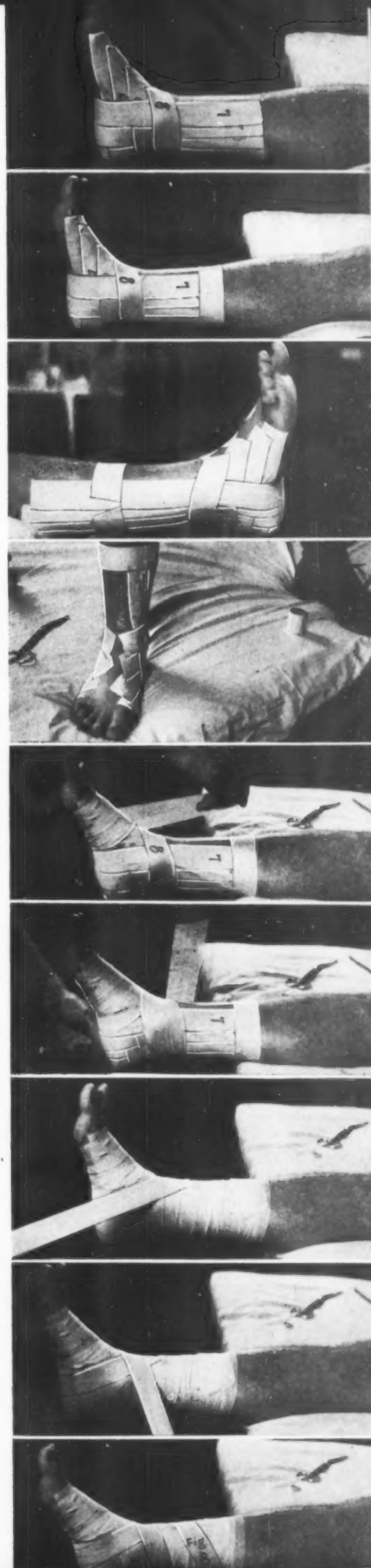
The third strip overlaps the first by about half its width and is applied in exactly the same fashion. In the sixth through the tenth pictures, five more strips are applied in alternations of perpendicular and horizontal layers.

In the eleventh picture, the strapping is anchored at the top with a horizontal strip of adhesive. An outside view of the brace is shown in the following picture and a front view in the next. It is interesting to note that the horizontal layers do not meet in front; if they did, they might interfere with the free circulation of the blood.

In the fourteenth and fifteenth pictures, a layer of two-inch gauze is applied over the strapping to assure the proper setting of the adhesive. The gauze is first rolled around the foot and then brought up and around the entire upper part of the strapping. As final anchorage, a strip of one and a half inch tape is drawn in figure eight fashion over the gauze wrapping.

The last three pictures show exactly how this final anchor is applied. The brace is then complete.

These taping pictures were set up exclusively for "Scholastic Coach" by Frank Kavanagh, Cornell University's famous trainer.



FOOTBALL BRACE

A MODIFICATION of the Gibney, this brace is especially valuable as a preventive support for football. The athlete sits on the table holding a loop of gauze which is hooked over the big toe. By applying slight pressure on the "reins" he keeps the foot in its properly flexed position.

The ankle must be kept in this position in order to favor the easily-injured ligaments on the lateral side of the joint.

The main body of this strapping consists of two perpendicular and three horizontal applications of two-inch tape. The first strip, as in the Gibney, starts on the inside of the leg, runs under the heel and then lays anchor on the outside of the leg. The second strip is laid horizontally across the foot the same as in the Gibney. The third strip overlaps the first midway, and the fourth overlaps the second.

From this point on, the strapping takes a different road than the Gibney. The fifth strip, instead of being drawn perpendicularly down the leg, is applied so that it overlaps the fourth strip (sixth picture). The sixth strip is split both on the inside and outside and the loose ends applied diagonally up and across the leg.

The eighth picture gives an outside leg view of the sixth strip, showing how the adhesive is split on the outside and how the inside split ends have been anchored by crossing them over. The next picture shows how it looks from the front.

The last important strip in this brace is applied in the tenth and eleventh pictures. Starting at a point slightly above the malleolus, a strip of tape is brought straight down under the foot, over to the outside and then across and around the foot. This strip serves both as an anchorage for the entire brace and, in particular, as a special protective for the sixth strip, preventing it from tearing any further.

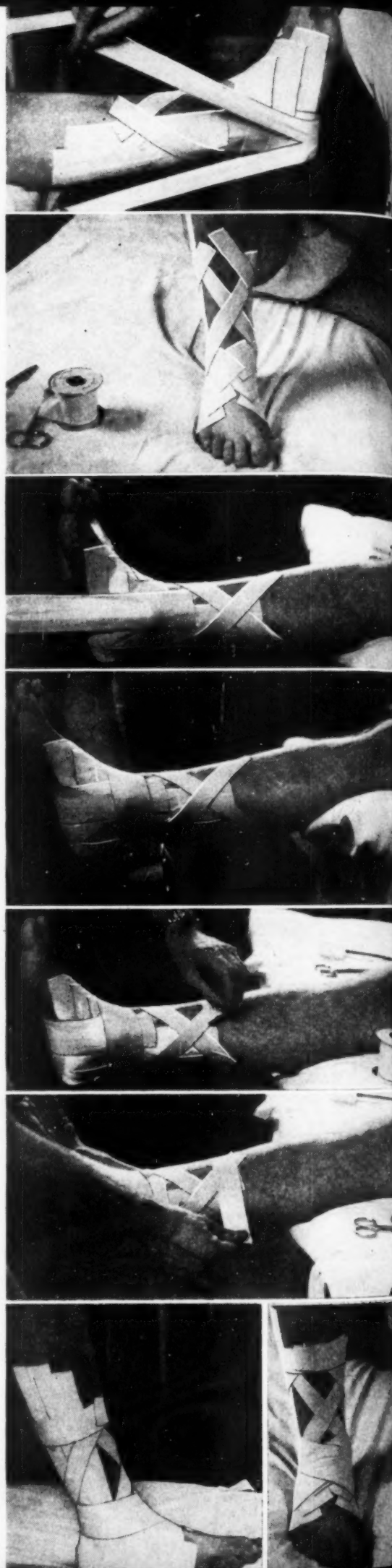
In the twelfth and thirteenth pictures, the brace is anchored at the top with strips which do not go all the way around the leg. By applying these strips lightly, the trainer will not cut off the circulation.

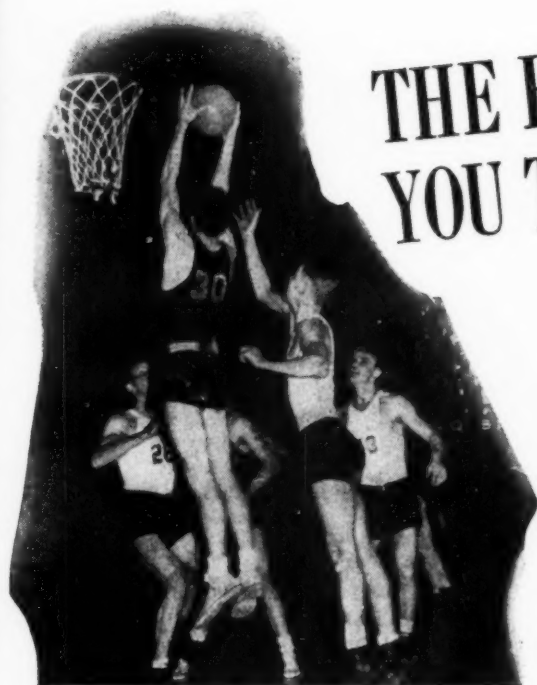
The final picture provides a front and outside view of the completed brace.

In removing an adhesive bandage after a game, the trainer should make every effort to prevent the athlete from suffering pain.

The remover should lift one corner of the strip, get a good grip, draw the skin above taut with the other hand, and with a snappy, steady sweep, strip the adhesive parallel to the skin. If the pull is upward, rather than parallel, a chunk of skin may come off with the tape.

A step-by-step description of a knee support will be found on page 30.





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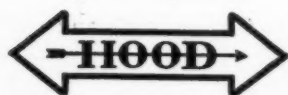
"WE'D be foolish to risk our boys' feet in any old basketball shoe," say many highly successful coaches. "That's why we insist on the 'Hoopster'."

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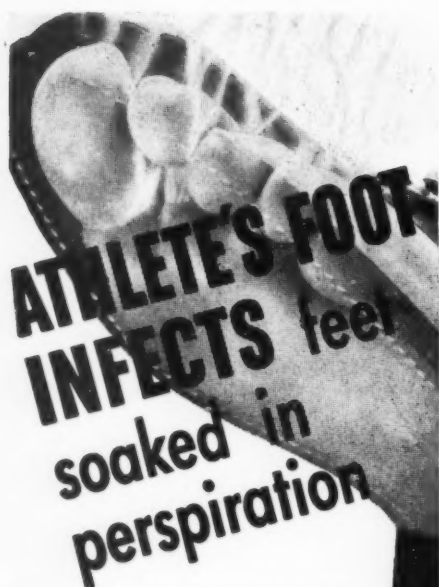
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This summer, when your feet swelter in socks soggy with perspiration—watch out! Excessive perspiration irritates skin between your toes. And when the skin cracks, painful Athlete's Foot may strike!

CRACKS between your toes WARN YOU



The fungi that cause Athlete's Foot actually grow twice as fast when they feed on excessive perspiration and dead skin. When cracks appear between your toes, they get under the skin, spread quickly. Your toes redden, itch—it's Athlete's Foot!

Drench those cracks



TONIGHT

At the first sign of a crack, drench the entire foot with Absorbine Jr., full strength.

1. Absorbine Jr. is a powerful fungicide. It kills the Athlete's Foot fungi on contact.
2. It dissolves the perspiration products on which Athlete's Foot fungi thrive.

3. It dries the skin between the toes.
 4. It soothes and helps heal the broken tissues.
 5. It relieves the itching and pain of Athlete's Foot.
- Guard against reinfection. Boil socks 15 minutes. Disinfect shoes. In advanced cases consult your doctor in addition to using Absorbine Jr. \$1.25 a bottle at all druggists.

ABSORBINE JR.

Kills ATHLETE'S FOOT fungi on contact



Also QUICK RELIEF for:

Sore, aching muscles • Tired, burning feet • Sunburn • Bites of mosquitoes and other small insects.

Sample Bottle FREE

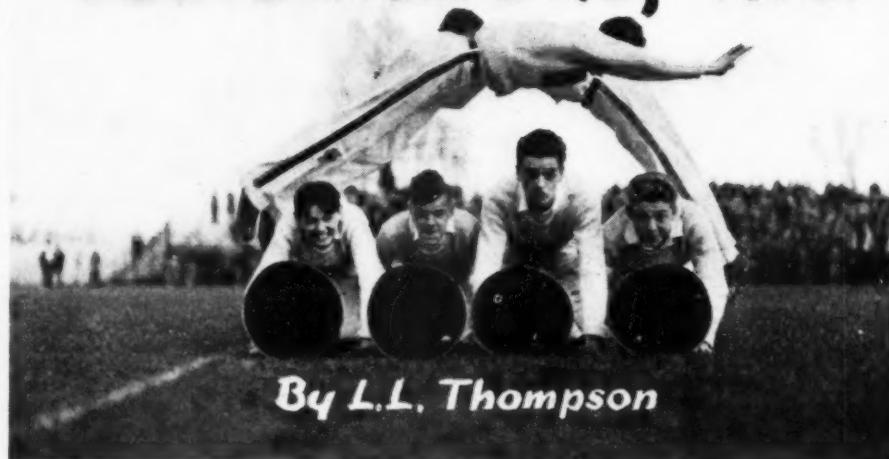
W. F. YOUNG, INC., 400K Lyman St., Springfield, Mass. Send me sample bottle of Absorbine Jr. FREE

Name _____

Street _____

City _____ State _____

PEP BUILDERS, INC.



L. L. Thompson, superintendent of the Baldwin, Kan., Public Schools, outlines a cure for your sports-interest headaches. So well has the local high school succeeded in arousing the community's interests in its athletic program, that recently the district voted to bond itself \$18,000 toward the construction of a new \$42,000 combined auditorium-gymnasium.

THERE is nothing unusual about Baldwin City, Kansas. It is a small town, population about 1300, and the home of the first college established in the state. It supports a high school with an enrollment of 183 pupils, about half of whom come from the surrounding country, and an elementary school of 150 pupils.

Four years ago football was re-established in the high school, but not very successfully. One touchdown was the net result for the season, and that wasn't a winning touchdown. Basketball went on, as usual, with a fair team and small crowds; and even with one of the best college tracks in the country available for use, interest in track was slight. In short, our sports program was distinguished only by its insignificance.

The year 1939 burst on this scene like a bombshell. Forty-four boys participated in football with an all-victorious team. A basketball squad numbered in the fifties, with a varsity that reached the regional tournament in its class. A track squad of 35 boys won points in every meet, even the state meet.

How were these miracles wrought? Enthusiastic coaching to be sure played a great part, but enthusiasm on the part of the non-combatants—student body and townspeople alike—played just as large a role. We have buried the ghost that haunts the high school unlucky enough to be located in a college town, where in the public's mind

the college athletes "play a better brand of football, are more adept at basketball and can run a race or put a shot with a little more finesse than the high school boys."

We have overcome this prejudice by planning the enthusiasm of the high school group and bidding for the interest of the grade school pupils. In this way we have radiated our enthusiasm throughout the town and the surrounding country.

The student body knows that the 11:00 o'clock hour of the first Wednesday of school will be taken over for the election of cheerleaders. Nominations are made from the floor. Each candidate is given an opportunity to try his "stuff" on the student body, after which a written ballot is taken. The student receiving the most votes is declared cheerleader and the next two highest his assistants.

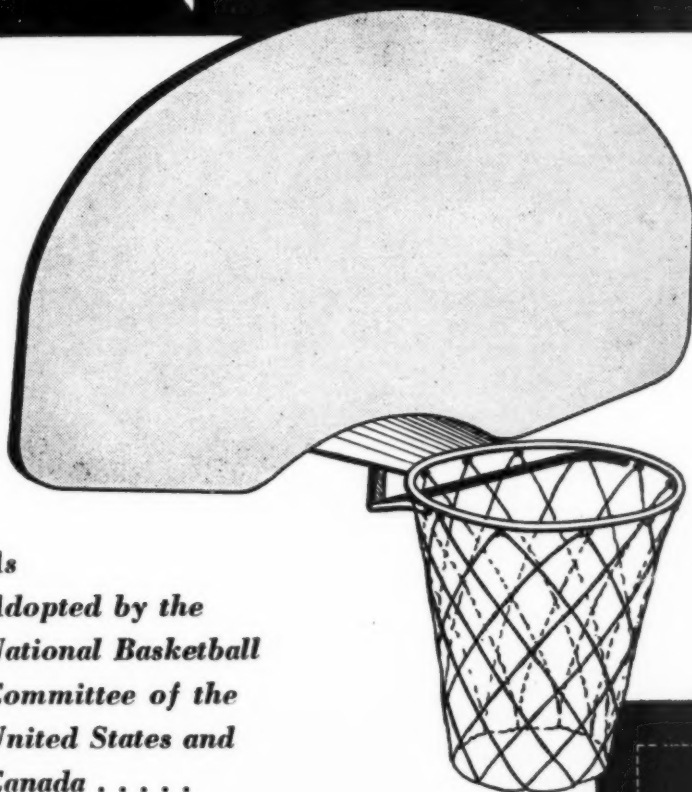
Cheerleaders are admitted free to all games at home and to most of the games away from home. They are also allowed to wear the insignia of the school, a purple and white six-inch letter "B."

Their first duty upon induction is the organization of a pep club. Pepsters, chosen solely on their ability and willingness to yell, obtain white outfits and a small letter "B" in the school colors. This letter is not used in any sport, as a standard six-inch block "B" is rewarded for all athletic merit.

The organization of the pep club is only one phase of our planning. Initiation of the freshmen via the "paddle" route has been banned in favor of a freshman day. A committee of seniors, acting with the senior and freshman sponsors, draws up a code of rules for the garb and conduct of all freshmen from sunrise

(Continued on page 32)

The New BASKETBALL BACKBOARD

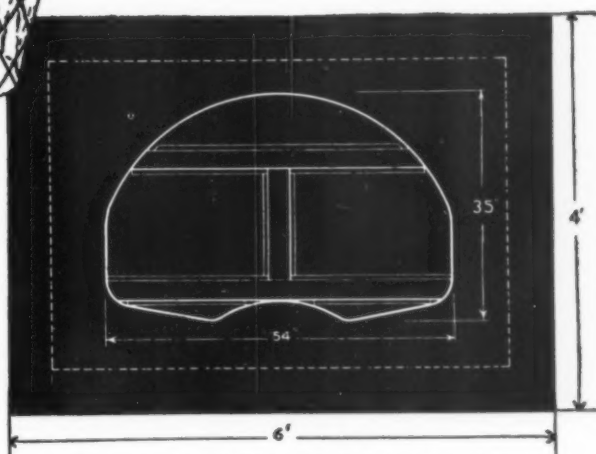


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STEEL

by **MEDART**

As
Adopted by the
National Basketball
Committee of the
United States and
Canada

Modified in size, different in shape, but inalterably fabricated with the same degree of attention to detail that characterized the old Medart Backboards, we pridefully present the new Medart ONE-PIECE, STEEL Backboard and new Medart Goal, as illustrated above. Constructed entirely of steel, with steel bracing reinforcements, the new streamlined backboard has many superior features that are illustrated and described in your copy of the new Medart Backboard Brochure. Write for it today. . . . No better backboard is available at any price.



Size Comparison—Old Style Backboard vs. New Fan-Shape Backboard

For Complete Details, Including Prices, Write



Fred Medart Manufacturing Company

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St. Louis, Mo.

"REPLACING YOUR BASKETBALL BACKBOARDS"

Medart Engineering Department has prepared a service manual illustrating almost every type of backstop installation, with suggestions for making the necessary changes in existing support structure to provide for the new modified backboard. Your copy may be had by addressing our general offices in St. Louis. No obligation, of course.

EXCERPTS FROM STATEMENT BY MR. H. V. PORTER, SECRETARY, NATIONAL BASKETBALL COMMITTEE

"In my opinion, the work of the Fred Medart Manufacturing Company in assisting the National Basketball Committee in making improvements in the basketball backboards has been of immeasurable value. This company cooperated in experimental work designed to determine the parts of the old backboards which are actually used and the effect on the game when superfluous space is eliminated. Experimental boards were produced by the Fred Medart Mfg. Co. without cost to the committee and it is largely through the use of such boards that the National Committee was able to arrive at the dimensions which have been adopted and legalized for 1940-1."

"I am sure that the members of the National Committee and progressive basketball men everywhere appreciate the willingness of your company to devote their attention to matters of this kind in the hope that the experimental work will result in definite game improvements."

INHERENT ABILITY TESTS FOR FOOTBALL

By Floyd A. Rowe

A practical statistical approach to the classification and selection of material

Floyd A. Rowe outlines a statistical approach to the classification and selection of football material, based on a series of tests and measurements of factors not directly related to the playing of the game. As directing supervisor of the bureau of physical welfare in Cleveland, chairman of the National Basketball Committee and a figure of importance in the National Federation, the author is recognized as one of the foremost athletic administrators in the country.

DURING the spring of 1939, one of our local coaches found himself in a quandary. Through graduation he had lost practically his entire football squad, and with 75 green boys coming out for spring practice, he was at a loss for a course of action.

A clinical approach did not appeal under these circumstances. With so much untried material on tap, there was a need for a more searching method of appraising and classifying the boys.

Consequently, when consulted on the problem, I recommended a statistical approach. I told him he could get an accurate estimate of each player's capacities and potentialities by giving them a series of tests and measurements which consisted of factors indicative of these qualities. With this to go on, he could build for the future as well as for the present.

The coach was interested in the idea and challenged me to devise a set of tests which could separate the squad's chaff from the wheat. I replied that not only would I set up the tests, but, without seeing the candidates, I would pick the prize lot. He, in turn, was supposed to go ahead with his own methods. At the end of the season, it was agreed, we would compare notes.

After the newspapers "broke" the story, another coach with the same problem entered the picture and expressed a desire to go along with us. The result was that we gave the test to 64 boys at West High School and 146 at East Technical High School.

The test consisted of 40 items that were not directly related to the playing of the game and which could be given in the gymnasium.

Several of these items require some explanation. P.L.R. (No. 4), for example, stands for Probable Learning Rate and is the equivalent of Intelligence Quotient (I.Q.) under the Cleveland system.

Nos. 8 and 9 refer to strength of



Complete Testing Items

- | | |
|------------------------|----------------------|
| 1. Age | 22. Cancellation |
| 2. Weight | 23. Aim—No. Trials |
| 3. Height | 24. Aim—No Trials |
| 4. P.L.R. | 25. Aim Hits Lt. |
| 5. Grade Code | 26. Aim Hits Rt. |
| 6. Auditory Acuity | 27. Aim Nearest Lt. |
| 7. Auditory Acuity | 28. Aim Nearest Rt. |
| 8. Back | 29. Aim Farthest Lt. |
| 9. Leg | 30. Aim Farthest Rt. |
| 10. Rt. Hand Avg. | 31. Aim Avg. Lt. |
| 11. Lt. Hand Avg. | 32. Aim Avg. Rt. |
| 12. Lung Capacity | 33. Sargent Jump |
| 13. Balance Beam | 34. Broad Jump— |
| 14. Potato Race, | 35. Hand Size— |
| Time-Form | 36. Hand Size— |
| 15. Rope Climb, | 37. Sitting Height |
| Time-Form | 38. Shoulder Width |
| 16. Visual Acuity, Rt. | 39. Chest Depth |
| 17. Visual Acuity, Lt. | 40. Arm Length |
| 18. Color Blindness | |
| 19. Tapping | |
| 20. Reaction Time | |
| 21. Memory Span | |

the back and leg as measured in kilograms with a back and leg dynamometer. No. 19, Tapping, was used in an effort to arrive at an index for reaction time. It was thought that the results of this test would check somewhat with No. 20, the actual reaction time measured.

Nos. 23 to 32 inclusive were different phases of a test which, as far as I know, has never been used outside of Cleveland, and perhaps has no great value.

A small bull's-eye with a number of concentric circles is used as a target. The individual stands with an ice pick in his hand and lunges at the circle, much in the same man-

ner as a fencer. As indicated, it is done with both right and left hands. Some significance is attached to it as a measure of muscular control and accuracy of bodily movement.

It is interesting to note that Johnny Kilbane, one of the greatest of all featherweight champions, made a perfect score on the test the first time he tried it. Kilbane, a deadly accurate hitter with either hand, simply demonstrated that he still possessed the eye and hand coordination of a great champion.

A word of explanation in regard to the way these tests were scored is necessary, since obviously it is impossible to add back and leg strength in kilograms, sitting height in centimeters, time of the potato race in seconds, and visual acuity on the usual scale, and come up with any sensible answer.

There are mathematical computations which statisticians use for just this purpose. The scores of different tests are converted into equivalent units, in order that they may be added together algebraically, and an understandable total arrived at.

The Woodworth, Standard or Z Scores Method is probably the most popular and accurate way of scoring these tests. The plan is outlined in some detail so that those statistically interested may appreciate the fact that considerable effort was made to do a reliable piece of research.

In using this method, it is necessary to draw two premises: first, that the distribution of scores from the different tests follow on approx-

(Continued on page 48)

Make Your Plans Now!

We suggest you plan and install your school's public address system during the summer months when classes are not in session. Then you can count on your gymnasium or stadium, or both, being ready for the big events of next Fall and Winter. You'll find your RCA Victor Public Address System will draw larger crowds. For it brings spectators closer to the action by letting them *hear* as well as *see*!



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Let RCA Victor help you prepare for Next Season's *Big Events!*



Loudspeaker shown is typical of the type used in large stadium installations. Ohio State Stadium, illustrated, is equipped with an RCA Public Address System.

Install an RCA Victor Public Address System in your stadium or gymnasium and attendance at sporting events, concerts and pageants will be greatly increased

RCA Victor Public Address Systems are excellent for outdoor or indoor use. They are available in a variety of sizes, from small portable units to large systems for giant stadiums. We will be glad to give you complete information and prices on request. Or, if you wish, we'll send a sound expert to your school for consultation about your particular requirements. For full details mail coupon below.

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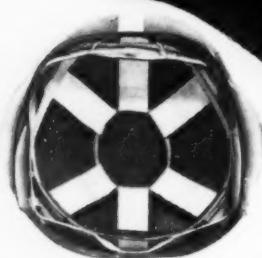
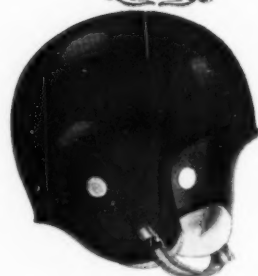
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Our catalog gives you the standard school price of these styles of shoes.

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GOLD
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BRASS
BRONZE
PURPLE
BROWN

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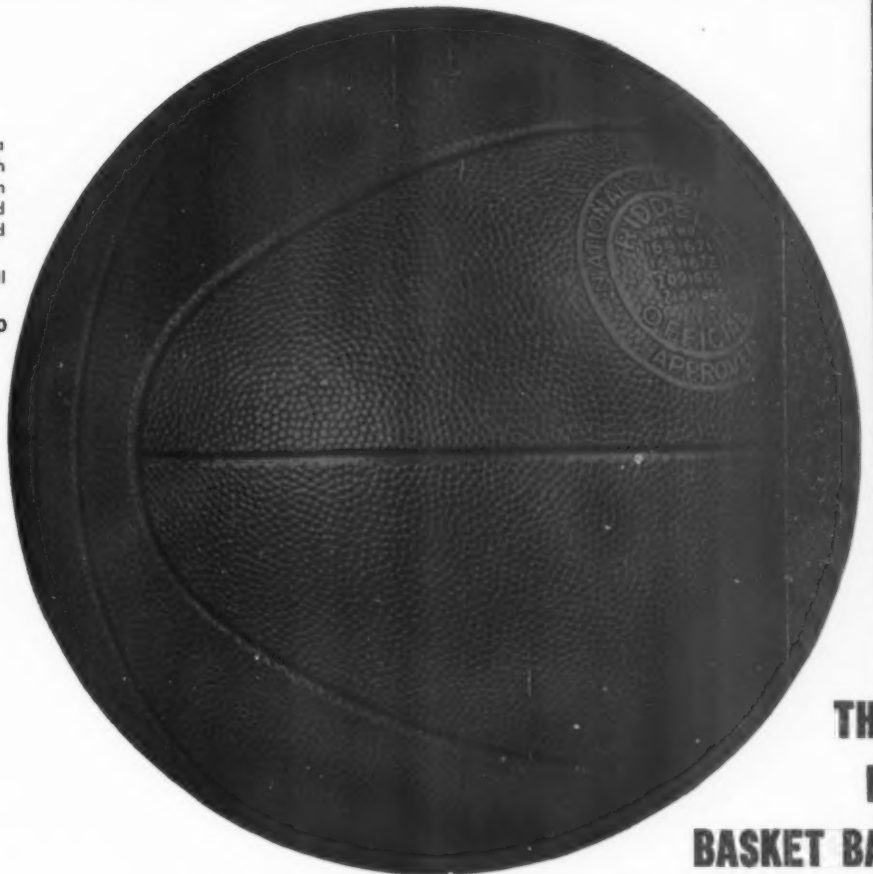
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A very tough ball that will hold its size and shape.

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**Our Style "A"
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Is National
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BASKET BALL

**THE BALL THAT KEEPS THE FEEL AND REACTION
THE BALL THAT RETAINS THE RATIO OF BLADDER
THE BALL THAT WILL NOT THROW A PLAYER
THE BALL THAT WILL NOT MAKE THE COACH**

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The Champion of leather top basket ball shoes. Is genuine Goodyear welt construction with non-marking sole that can be resoled. We believe this is the fastest starting and stopping shoe on the market. It features a shock absorbing quality that will save your players from fatigue in the hard grind of a basket ball season.

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Style 55-Red

A light basket ball shoe in colors for game use. Made up special, requires 3 weeks.

Price.....\$5.75



Style 57

Same as 56 only in white elk.

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Style 55-Brown

A light basket ball shoe in colors for game use. Made up special, requires 3 weeks.

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Style 55-Yellow

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Rec

Bowling Shoes in colors to make up.

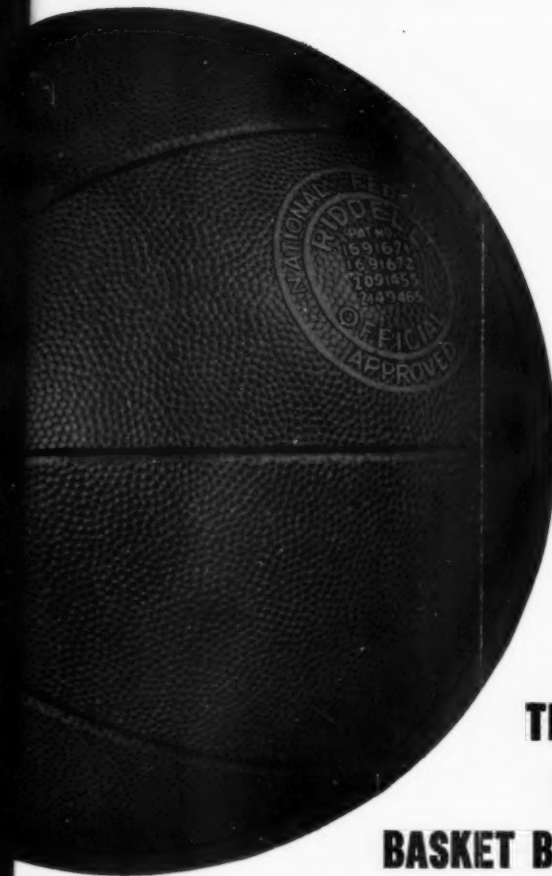
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Laces, gross.....	School Price.....
Outsoles (Light-colored, non-marking), per pair.....	\$4.50
Resoling with Light-colored, non-marking soles, per pair.....	.90
Sponge Rubber Insoles, per pair.....	1.75
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THE FOLLOWING ADDITIONAL COLORS
BLUE — ORANGE — GREEN**

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THE RIDDELL MOULDED BASKET BALL AND FOOTBALL

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THAT RETAINS THE RATIO OF BLADDER, LINING AND LEATHER OF THE STITCHED BALL
THAT WILL NOT THROW A PLAYER OFF HIS GAME
THAT WILL NOT MAKE THE COACH CHANGE HIS STYLE OF PLAY
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	School Price
.....	\$4.50
Light-colored, non-marking), per pair.....	.90
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per Insoles, per pair.....	.25
per pair.....	.11

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Basket Ball Score Books (Adams), each
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Ball Cleaner (Riddell), can.....
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Bowling Shoes in colored
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Price\$7.50

Football No. 2

Same as No. 1 only covered with Gunnison basket ball leather.

Price\$6.50

Football No. 3

Carcass same as No. 1. Covered with good grade leather.

Price\$5.00



A very fine moulded volley ball that will hold its size and shape.

No. 1 covered with best grade of white elk leather.

Price\$5.00

Covered with good grade white leather.

Price\$3.85

Football No. 1

Football No. 2

	School Price
Adams), each	\$0.35
ube.....	.25
.....	.35
.....	.25
less Rubber Moulded), each.....	1.00
.....	.15
al Federation).....	.25



Bowling Shoes Style 66

Style 66—The last word in an athletic bowling oxford. Shoes are of equal weight. Has starting insert on right foot which will not tear off. A very stylish looking shoe. Has white eyelets. Men's sizes 6 to 12. Women's sizes 2 to 9. B, C, D, and E widths.

Price\$4.50

Style 69—Same as Style 66 only with high top. Has black eyelets. Carried in C, D, E widths.

Price\$4.50



Boxing Shoes Style 67

A genuine Goodyear welt boxing shoe. Upper of heavy kid. Sole of soft Moccasin leather.

Price\$3.75



Yellow Bowling

ing Shoes in colored kid. Takes 3 weeks to make up.

Price\$6.00



Brown Bowling

Bowling Shoes in colored kid. Takes 3 weeks to make up.

Price\$6.00



Wrestling Shoes Style 70

Same as 67 except sole is tough rubber. Has non-scutt tip.

Price\$3.75



RIDDELL



THE HOUSE OF QUALITY and SERVICE

TRACK AND FIELD SHOES



Style S—Our finest model University shoe. A light, but very durable, glove-fitting yellowback Kangaroo sprint shoe. Hand-turned construction..\$6.50



Style N—A hand turned shoe made of very fine grade of Athletic Tan leather. Fits like a glove.....\$5.00



Style NX—A track shoe long needed to meet the demand for a more durable practice shoe. It is of genuine Goodyear welt construction. Has full sole which keeps upper from wearing out at heel. We believe this is the toughest track shoe made.....\$4.20



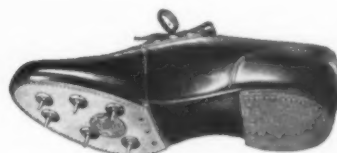
Style T—A good durable track shoe. Upper made of tough Athletic Tan leather that insures fit, comfort and resists perspiration.....\$3.75



Style J—Field or jumping shoe of a grade corresponding to Style S. Has counter and two spikes in heel. Our very best yellowback field shoe.....\$7.00



Style K—A very strong shoe of welt construction. Highest grade oak soles. Made of Athletic Tan leather. Two spikes in heel.....\$5.50



Style KX—Same shoe as Style K except it has usside heel with no spikes in heel.....\$5.50



Riddell Track Shoes feature an interchangeable spike in three lengths: price, each.....\$0.05

$\frac{1}{4}$ " for board tracks

$\frac{3}{8}$ " for indoor dirt tracks

$\frac{5}{8}$ " for outdoor tracks

The soles of the shoes are reinforced with a steel plate. The fixture binds the sole together in such a way that the spikes cannot punch up into the foot.

(Two Weeks to Make Up)

(Not Carried in Stock)

KP—Pole Vaulting Shoe like K only high top, one spike in heel.....\$ 7.00

JP—Pole Vaulting Shoe like J only high top, one spike in heel..... 9.25

JX—Cross Country same as J only has usside heel with no spikes..... 6.50

JY—Indoor Shoe with no spikes in tap or heel, usside soles..... 7.50

KY—Indoor Shoe with no spikes in tap or heel, usside soles..... 6.50

SPECIAL TRACK SHOES

TRACK ACCESSORIES

Track Wrenches.....\$ 0.35
Repair Kits complete for football and track shoes..... 10.00

Laces for Track Shoes, per gross laces.....\$ 1.50
Fixtures complete..... .07

BASEBALL AND SOFTBALL SHOES



Style SB—Our very best feather-weight baseball shoe built especially for the big league player. Made of Yellowback Kangaroo. Extra strong and extra light.....\$8.50



Style NB—A very fine Goodyear welt construction baseball shoe with split shank sole. Made of Ath-Tan Kangaroo. Used by many professionals....\$5.50

Style NBS—Same as NB only has short $\frac{3}{8}$ " softball spikes.....\$5.50



Style KB—Goodyear welt construction with straight sole. An extremely strong shoe. Upper made of the finest Athletic Tan leather. Used by quite a few Big League catchers and pitchers. Best shoe in our line for this purpose.....\$3.95

Style KBS—Same as KB only has short $\frac{3}{8}$ " softball spikes.....\$3.95



Style 33—Has a regular baseball upper made out of Athletic Tan leather. Leather insole and counter. Features a special moulded rubber outsole with cleats moulded on the sole which are especially adapted for softball. Each sole has two extra removable golf spikes which can be used at the discretion of the player and can be easily removed if not desired. This shoe makes an excellent golf shoe; also, can be used as a football official's shoe.....\$3.75

BASEBALL ACCESSORIES

Laces, gross.....\$1.65
Spikes (sole or heel), pair..... .18
Pitchers' Toe Plates, attached to shoe, leather, each..... 1.50
Pitchers' Toe Plates, attached to shoe, full cap aluminum, each..... 1.00
Pitchers' Toe Plates, loose, leather, each..... .38
Pitchers' Toe Plates, loose, full cap aluminum, each..... .60

1259 N. Wood Street

John T. Riddell, Inc.

Chicago, Illinois



RIDDELL

THE HOUSE OF QUALITY and SERVICE



FOOTBALL SHOES



Style 89—Game shoe of Yellowback Kangaroo—soft toe—buffed sole—equipped with No. 4 cleats. Goodyear welt construction.

School Price.....\$10.75

Style Z—Same shoe in Blue Back Kangaroo. **School Price**.....\$8.75



Style H—Second oldest shoe in our line. A strictly university grade shoe. Upper of the finest Yellowback. Split shank, Goodyear welt construction. Comes equipped with No. 4 cleats. **School Price**.....\$9.75

Style HX—Same as H only has soft toe. **School Price**.....\$9.75



Style R—The oldest shoe in our line. Used as an all-round shoe for practice and games by many of the country's leading teams. Light, yet very tough and comfortable. Comes equipped with No. 4 cleats. Goodyear welt construction. **School Price**.....\$8.75

Style RX—Same as R only has soft toe. **School Price**.....\$8.75



Style P—The original quality straight sole shoe. Used by many professional and university teams for practice as well as games. Made of the finest selections of Ath-Tan leather and Oak sole leather. Equipped with No. 4 cleats. Goodyear welt construction. **School Price**.....\$8.00

Style PX—Same as P only has soft toe. **School Price**.....\$8.00



Style 77—Upper of Athletic Tan leather which is very tough and pliable and will withstand perspiration. Goodyear welt construction, ten eyelets high. Split shank soles of good grade Oak Tan leather. Equipped with No. 4 cleats. A good practice shoe. **School Price**.....\$7.50

Style 77X—Same as 77 only has soft toe. **School Price**.....\$7.50



Style O—One of our old standbys with the larger high schools. Made of the best grade of Ath-Tan leather. Is a shoe of excellent quality. Is light, durable and a shoe we can recommend without reservation. Equipped with No. 4 cleats. Goodyear welt construction. **School Price**.....\$6.50

Style OX—Same as O only has soft toe. **School Price**.....\$6.50

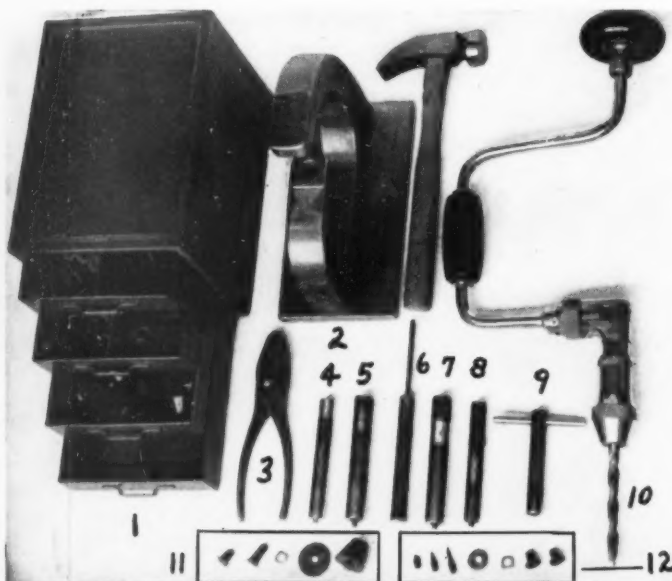


Style X—A very sturdy shoe. Made throughout of a good grade of Athletic Tan leather. Soles are of good Oak leather. By all odds, the best shoe made within this price range. Has No. 4 cleats. Goodyear welt construction, nine eyelets high. **School Price**.....\$5.50

Style XX—Same as X only has soft toe. **School Price**.....\$5.50

The House of Riddell has had 18 years' experience with female cleats and fixtures and 13 years' experience with the male cleat construction. Our shoes can be had in either construction. Our long experience is your safeguard and protection.

FOOTBALL SHOE ACCESSORIES



	School Prices
Kicking Toes, each.....	\$1.00
Cleats No. 1, Male or Female, per set of 14 in bag.....	.30
Cleats No. 2, Male or Female, per set of 14 in bag.....	.30
Cleats No. 4, Male, per set of 14 in bag.....	.25
Cleats No. 4, Female, per set of 14 in bag.....	.20
Cleats No. 5, Mud—Male, per set of 14 in bag.....	.25
Cleats No. 5, Mud—Female, per set of 14 in bag.....	.20
Laces, gross.....	4.50
Fixtures, complete (Male or Female Set-up).....	.05
Pliers.....	.25
Cleat Wrench.....	1.50
Cork Soles, pair.....	.09
Sole Plates, pair.....	.24
Heel Plates, pair.....	.20
Reinforcement Plates, pair.....	.10
Neatsfoot Oil, quart.....	.90
Repair Kit—This Repair Kit Can Be Used for Both Male and Female Cleats.	
Hammer and Brace are not a part of tool kit. School Price for complete kit (22 items)	\$10.00

John T. Riddell, Inc.
1259 N. Wood Street Chicago, Illinois

THE PHYSIOLOGY OF ATHLETICS

This is the first of a series of short articles on physiology in relation to athletics and the training of athletes. The author, Laurence E. Morehouse, will welcome any questions, and will endeavor to answer the outstanding inquiries in future articles. Address all correspondence to Mr. Morehouse at the State University of Iowa, College of Medicine, Iowa City, Iowa.

RECENT analyses of the factors which make for success in athletic performance have shown that strength is nearly always first in importance.

This is not surprising when the structure of the human body is considered. The bones of the body are attached in such way to form levers which are moved by the muscles. The levers which are employed in sports, such as those of the arms, legs, shoulders, and hips, are practically all of the type in which the muscle is attached quite near the fixed end of the bone. The weight to be lifted is at the free end of the lever, and far from the muscle which is to move the weight.

While this arrangement may be very convenient for movements of speed in which little resistance is encountered, it puts the muscle at a great disadvantage where lifting heavy loads is concerned. To move a heavy load, an extraordinarily large force is required in the form of muscular contraction.

For peak performance, the muscles, which are the sources of power, must be strong. As a rule the practice of the sport itself is not sufficient to develop the muscles to their greatest strength, necessitating the addition of strength building exercises. The "heavy" sports, however, such as rowing, wrestling and weight lifting, usually do not require this supplement as the exercises involved in participation generally suffice.

In sports which emphasize skill rather than strength, athletes may benefit by strength exercises consisting of slow work with heavy weights and pulleys. In many instances, athletes reach a peak in their play that represents only the skill side of the activity. Further improvement is impeded by their limitations in strength. If they will work on this, they may extend their peaks considerably.

The danger of becoming muscle-bound is very slight. Increases in strength are not usually accompanied by decreases in flexibility or elasticity.

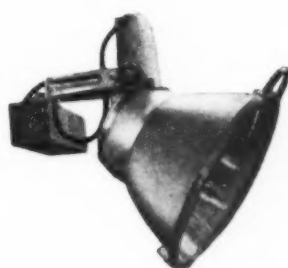
LAURENCE E. MOREHOUSE



"Attendance has multiplied three times over"

THAT'S the comment of coaches and athletic directors in several hundred schools from coast to coast who have football fields lighted by General Electric. Naturally, they are enthusiastic about night games. They are even more enthusiastic about the quality of G-E planned floodlighting, which provides plenty of light for players and spectators alike, *without objectionable glare.*

If you want larger crowds—play at night. Most schools soon pay the entire floodlighting investment with the returns from increased attendance. But be sure your lighting is good; poor floodlighting won't pay dividends in satisfied customers or players.



A NEW G-E FLOODLIGHT FOR OUTSTANDING RESULTS

The new Type L-68 is a low-priced, spun-aluminum floodlight that can help you attain results like those enjoyed at South Milwaukee. GEA-3317 gives complete information about this efficient, 1500-watt floodlight. The nearest G-E Office will give you a copy. Or write General Electric, Schenectady, N. Y.

IF YOU'RE PLANNING TO LIGHT YOUR FIELD— this free bulletin, GEA-3218, will give you helpful ideas and suggestions. It contains information about methods of mounting, wiring, and adjustment of floodlights, also suggestions on types of floodlights to use. This bulletin, plus GEA-3317, will enable you to plan the lighting for your field.

Write for your copy today

HOW TO FLOODLIGHT FOOTBALL FIELDS

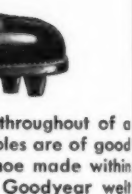
THE ILLUMINATING ENGINEERING LABORATORY
GENERAL ELECTRIC CO., SCHENECTADY, N. Y.

WHAT A SUCCESSFUL INSTALLATION

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quality straight any professional for practice side of the finest leather and Oak with No. 4 cleats. \$8.00 only has soft toe. \$8.00



throughout of a es are of good oe made within Goodyear well

.....\$5.50 toe.\$5.50

he male action.

School Prices

.....\$1.00
..... .30
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..... .20
..... .10
..... .90

2 items) \$10.00

Inc. Illinois

National Federation News

DURING the past ten years there has been considerable argument concerning the proper classification of the various school athletic organizations. A few years ago this matter was brought to a head during a dispute as to whether college and university athletic associations were subject to certain amusement taxes and taxes on athletic equipment. After considerable litigation, the Supreme Court rendered a decision in the case of the University of Georgia. It was to the effect that athletic associations organized in a manner similar to the one involved were not to be classified as educational within the meaning of the provisions of the Revenue act.

Prior to that time no one seriously raised the question as to whether associations of high schools, such as the state athletic associations, were engaged in educational activities. Since that time, no one familiar with the origin, purpose and operation of these associations has doubted that they are an integral part of the educational organization and that their activities are educational in nature.

The Department of Internal Revenue was compelled to pass opinion upon this particular question in deciding whether such associations were subject to income taxes. The decision, rendered soon after the income tax laws went into effect, stated that the associations were not subject to such taxes. This decision was reversed in November, 1939, and several of the associations were ordered to pay such taxes.

The men in charge of high school athletic activities were convinced that this reversal was based on inadequate or erroneous information, and several of the states took it upon themselves to supply proper information. The Illinois association supplied voluminous evidence to their representatives in Congress as well as to the leaders in the Department of Internal Revenue. Pennsylvania did likewise. The Iowa board of control sent its executive secretary and one of the board members to Washington to appear personally before the executives of the department.

When the evidence was all in, it became clear to the Internal Revenue Department that the state associations were made up of high schools and that the athletic activities were as much a part of the educational program as any other activity of the school. The result was a decision rendered under date of August 5, 1940, which classified such associations as educational in character and as exempt from filing of income tax returns.

This decision is gratifying to the high schools for a number of reasons. Since no provision was made in the budget of the various associations for payment of income taxes, it would

have been a great hardship on the schools if they had been required to file income returns for the past ten years or more. Payment of such taxes would have implied that there was doubt as to the educational character of the work being done by these school organizations. The August decision supplies legal proof that such associations are an integral part of the school organization.

One of the activities of the new National Federation office is the inauguration of a national press service designed to establish close communication between all the state associations. This press service will enable all state offices to keep their member schools supplied with up-to-the-minute information relative to activities in other states and relative to trends in all matters pertaining to interstate contests and relationships.

H. V. PORTER,
Executive-Secretary,
Chicago, Ill.

From the States

ONE of the summer schools which showed an increase in interest and attendance was the annual school at Topeka, Kan. Directed by E. A. Thomas, under the sponsorship of the Kansas State High School Activities Association, this school is self-supporting and not subsidized. The time of the state secretary, his staff and the facilities of the state office are available without charge.

The Iowa High School Athletic Association has inaugurated a program which includes the use of radio facilities in the study of football rules and officiating. Weekly programs are in charge of Secretary George Brown and Assistant Lyle Quinn.

A progressive study of the problems of game administration will be outlined by radio, and officials and coaches will be expected to make reports and to answer questions relating to these programs. The weekly series of discussions is designed to supplement the few football interpretation meetings which will be held at several points.

Iowa is one of the states which provides for legislation by referendum. Recently several topics were submitted for a referendum vote. One of the provisions which was adopted and which now is a part of the Iowa by-laws is a ruling to the effect that it is illegal for any school to lend its facilities or have any part in the selection of all-star players for the purpose of promoting "all-star games."

This ruling is intended to discourage those organizations which have no connection with educational associations and are designed to capitalize upon the reputations of high school players. Such practices cannot be

justified from an educational standpoint and are detrimental to the boys who participate and to the program itself. There is a professional flavor to the management of such games and what advantages there are to them cannot offset the tendency they have to lengthen the football program both before and after the regular season. The Iowa rule also fixes a definite date for the beginning of football practice by the high schools.

Another provision which was carried by referendum vote is that which opens membership in the state athletic association to approved parochial and private schools as well as to public schools. Several states, such as Indiana, Michigan and Ohio, have followed this procedure for several years. Illinois recently authorized the formation of an approved list of such schools in that state. This approved list represents a type of affiliated membership.

—H. V. P.

AT THE last meeting of the Board of Control of the West Virginia High School Athletic Association, the National Federation football code was adopted for use during the coming football season.

A broad study of the state scholastic sports program was authorized to arrive at a basis for recommendations to "eliminate current evils."

The resolution stated that the association, "acknowledging that its present program is not adequate to meet current needs, and that the standards by which athletics are now governed need revision, and that it appears desirable to have a careful study of athletics made," authorized the appointment of seven principals to make the study.

E. Ewing of Wheeling was again re-elected secretary-treasurer of the Association. At the completion of this new term, he will have served 12 years as an officer.

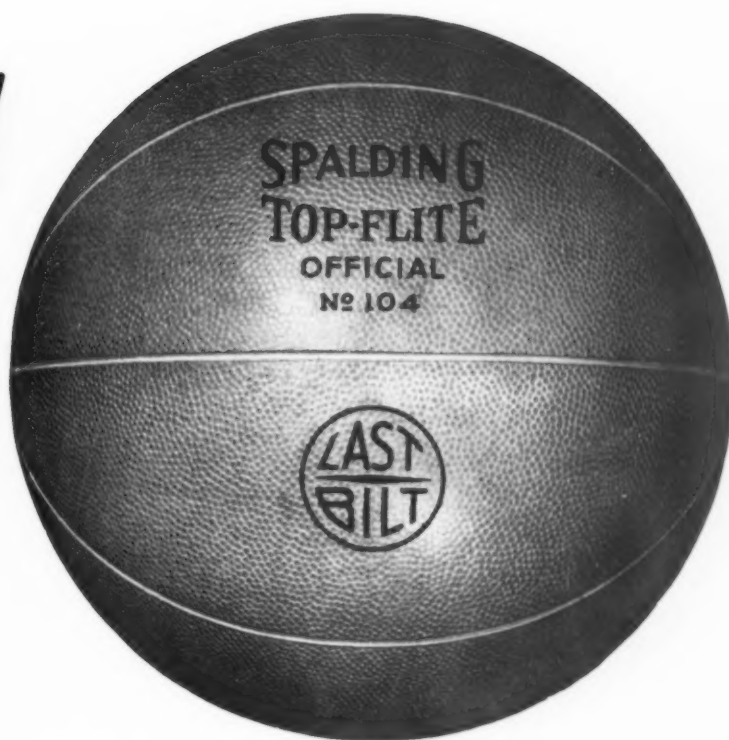
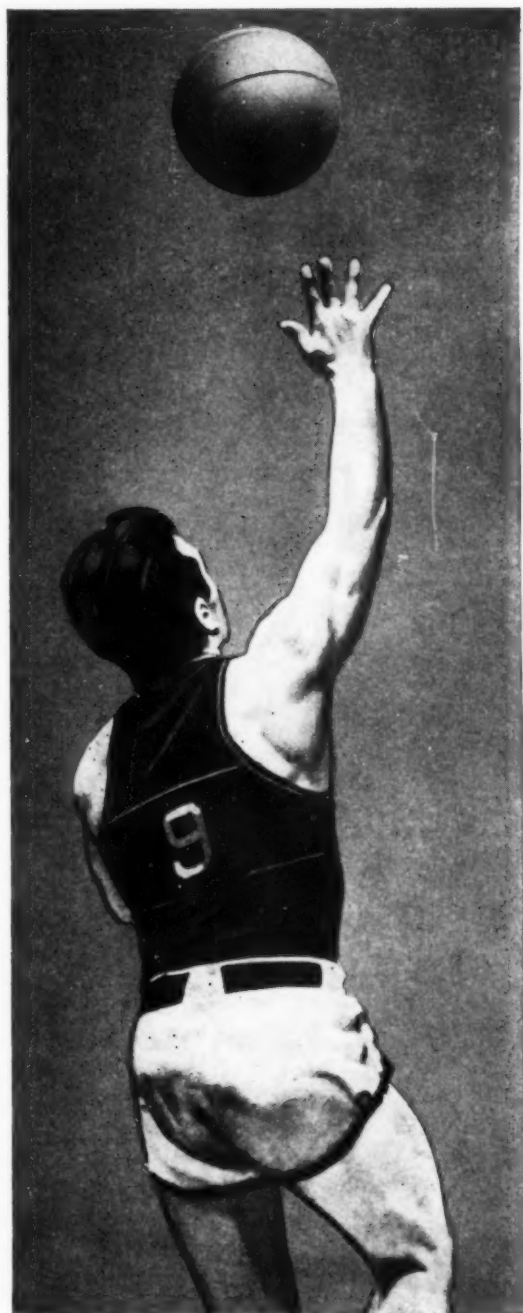
—MAURICE J. LANDERS

THE opening of the school year will find the Vermont Coaches Association without a president, due to the fact that Gordon Conner has left Bellows Free Academy of St. Albans to return to Winthrop High in Massachusetts, from whence he came three years ago.

Under the heading of unfinished business comes the announcement of the winners of last spring's baseball championship. The 1940 playoff was won by a heads up team from Newport High, coached by Barry Brannon. Outstanding for the champions was the work of pitcher Bob Mackle, who disposed of Bellows Falls High on opening day and then, after one day's rest, came back to hold Freddie Lanan's Winooski High sluggers for five bingles, winning 5-3.

—O. W. "ORRIE" JAY

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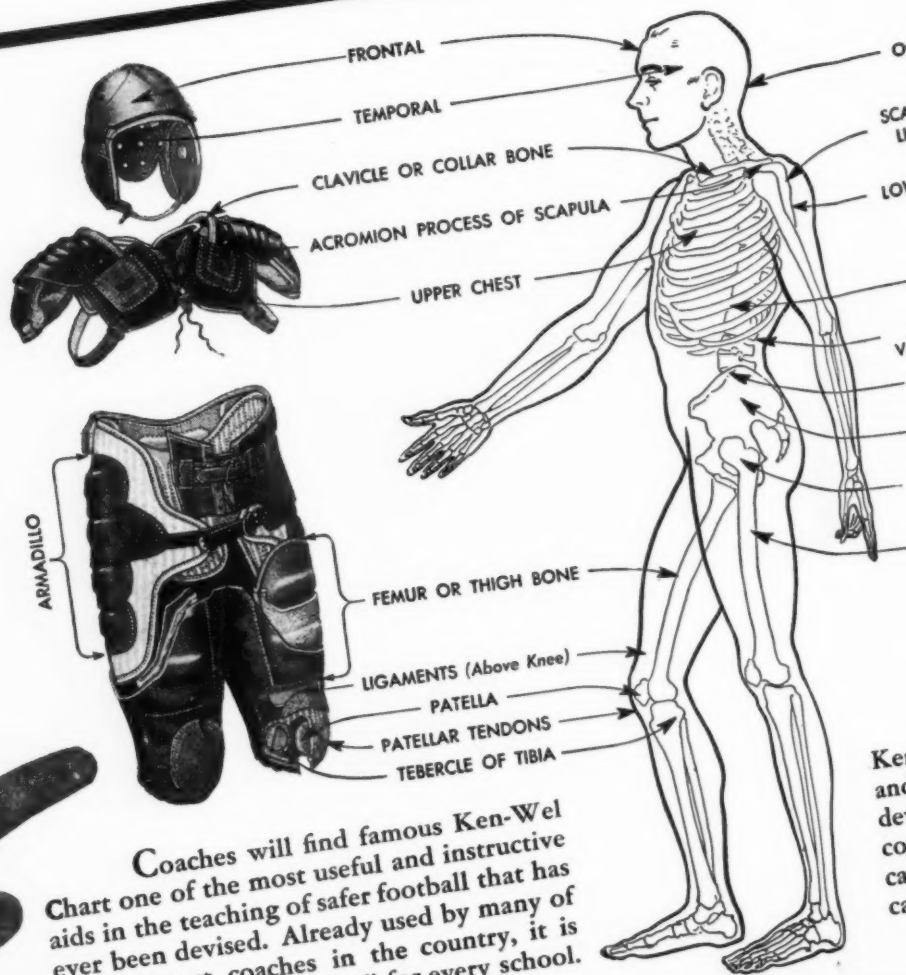
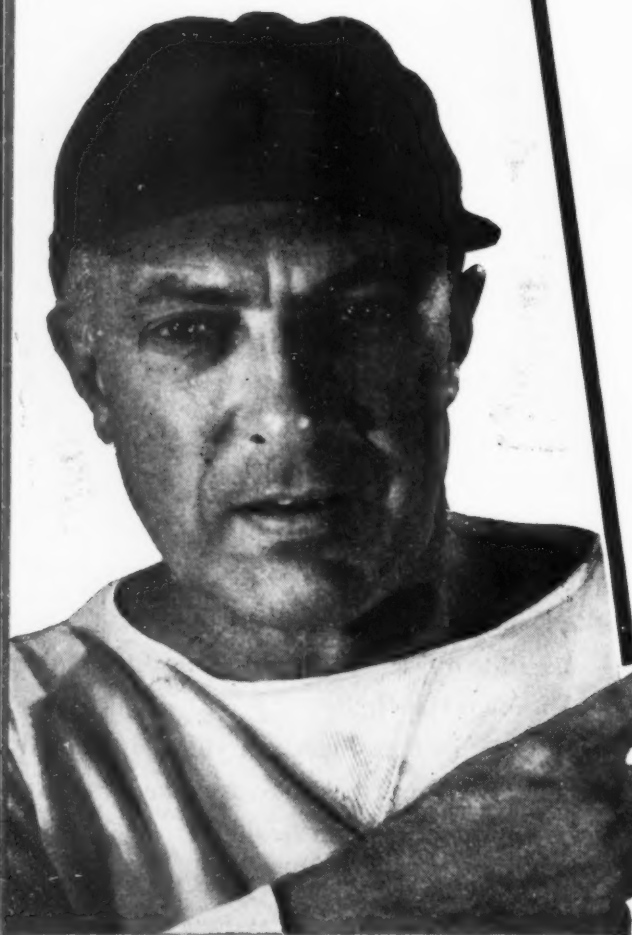
SPALDING Top-Flite Official ball is "Last Bilt" — absolute balance and roundness, accurate on rebounds, tested for 3 times the playing life of a conventional type ball.

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Other SPALDING basketballs, priced for lower budgets. Long-wearing, pebble grain leathers. Official in size and weight.

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COACHES! HERE'S HOW TO PRO



Coaches will find famous Ken-Wel Chart one of the most useful and instructive aids in the teaching of safer football that has ever been devised. Already used by many of the foremost coaches in the country, it is rapidly becoming a "must" for every school.

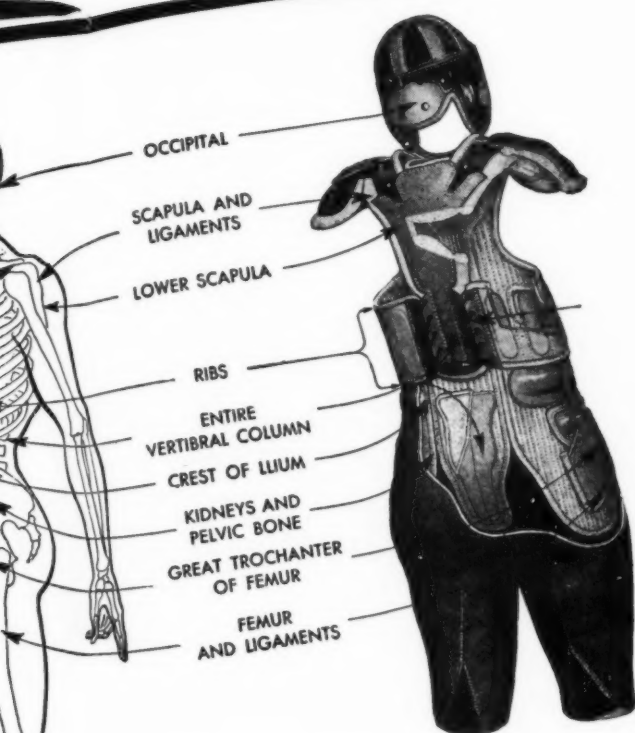


BODIGUARD: Ken-Wel's famous "Bodiguard" is one of the "greatest advances in protective equipment of the decade". A one-piece garment that assures maximum rib, spine and shoulder protection with a minimum weight and no sacrifice of freedom of action. Single permanent adjustment provides comfortable fit for any player. "Bodiguard" never gets out of position. Ends forever the danger of unnecessary bruises and cracked ribs from this cause.



FOOTBALL HELMETS: All Ken-Wel football helmets are carefully made from the finest quality materials. Each built with reinforced crowns insuring double protection to temples. Naturally shaped fibreglass ear and neck covering brings increased protection to these vulnerable points. All helmets equipped with web shock suspension.

PROVIDE ADDED PROTECTION!



Ken-Wel equipment embodies latest improvements and refinements as specified by leading coaches and developed by our experienced designers. All rigid, compressed fibre parts and underlining padding are carefully, accurately placed in relation to the physical members they are designed to protect.

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FOOTBALL PANTS: Every pair of Ken-Wel football pants is designed for the sole purpose of giving maximum protection plus complete freedom of action. Carefully moulded fibre parts assure complete coverage of danger spots. Special attention given to knee protection in new style design. All pants are leather reinforced... triple stitched... made to last for several seasons.

Famous "Play Safe" Chart reveals how KEN-WEL'S line of Football Equipment embodies latest scientifically developed improvements in Body Protection!

The complete line of Ken-Wel football equipment is the finest available. Every item is technically and anatomically designed . . . built to give maximum protection to the most vulnerable parts of the body . . . minimum weight . . . provides greater freedom of action.

Before ordering any football equipment make sure you see the "high-protection" Ken-Wel line. If your dealer does not have samples, write today.

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HIP PADS: Ken-Wel's #749H hip pad is one of the most flexible, most protective pads ever manufactured. Made of tough resisting Kapok quilting with reinforced fibre protectors at sides. Specially moulded two-piece fibre spine protector. Easy adjustable belt strap. Other models designed to give equal protection.

KNEE SUPPORT

INJURIES to the knee joint are almost as common as those to the ankle, and as a rule are even more disabling. In football the chief cause of injury is a blow on the outside of the knee while it is in a flexed position. In basketball the injury usually occurs from a sudden wrench, a slip or a pivot. Nine times out of ten the injury will be located in the internal lateral ligament and internal semilunar cartilage. When the athlete returns to active and vigorous play, he will usually need an extra protective support.

This brace is designed to build up the point over the cartilage indicated by the finger (first picture). The first strip is started well up on the inside of the thigh, drawn over the vital area and inserted well down on the opposite side of the leg. The second strip is applied in exactly the same fashion from the opposite side.

The third strip overlaps the first, fanning at the ends but coming in to cover the spot indicated in the first picture. The fourth strip is laid on in this fashion over the second strip. At this point (sixth picture), two anchor strips are wrapped partly around the leg, one two inches below the knee and the other three inches above.

The sixth and seventh diagonal strips continue the process of building up over the cartilage, after which two more anchoring strips are strapped on, overlapping the first two anchorages by about two-thirds of the width and also not going completely around the leg.

After another diagonal strip (tenth picture), which originates midway between and goes over the third and sixth strips, two more strips are applied as anchors. The brace is capped off with two outside anchors both above and below the knee. The application of the initial anchoring strips is shown in the first set of adjacent pictures, and the application of the second and overlapping strips in the next set.

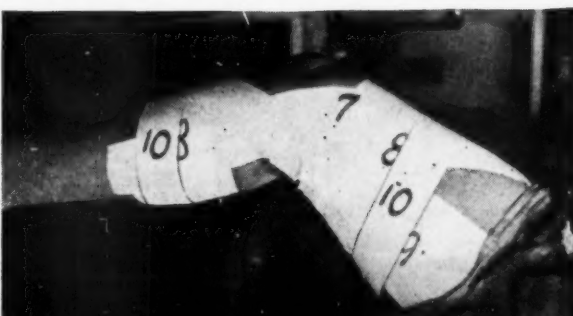
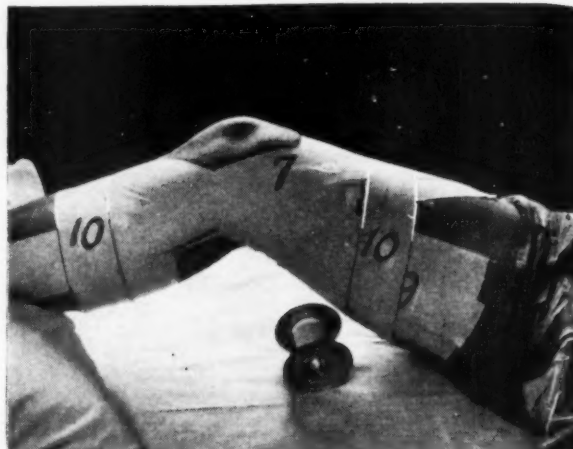
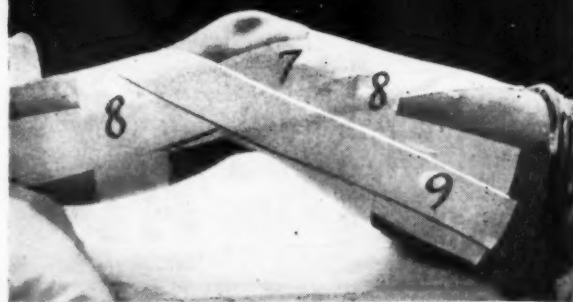
The final picture gives an inside leg view of the completed brace.

The dangerous nature of knee injuries makes first aid treatment especially worthy of consideration. The trainer should not permit the athlete to put any weight on the injured member. The boy should be removed from the game and carried to the locker room where a diagnosis can be made.

If the doctor is not available, the trainer may make himself useful by applying ice bags or ice water to the injured part. This will reduce the inflammation.

The skin may then be dried and wrapped with a compression bandage.

These taping pictures were set up exclusively for "Scholastic Coach" by Frank Kavanagh, Cornell University's famous trainer.



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For touchdown performance in official play specify Voit Enduro. Form-Bilt of 3 layers of fabric plus a top layer of spiral-wound non-stretch cord, it firmly maintains its perfect football shape—gives absolute control on passes, punts, and place kicks. • Voit ENDURO line also includes: Basketballs, Soccerballs, Volleyballs, Water Polo Balls, Tether Balls.

New streamlined shape, combined with Voit's traction-like rubber cover, provides sure, confident grip for players of all ages! Perfect for high school play—official for 6-man football. Form-Bilt fabric-and-cord construction. The Voit Rubber Cover is famous for long wear. • Voit REGULATION line also includes: Basketballs, Soccerballs and Volleyballs.

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VOIT RUBBER COVERED **SPORTS EQUIPMENT**
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Tough fabric is used in the Wintark Soccer Ball to provide a rugged foundation for added layers of plastic and CORDURA* winding. Wintark patented molded construction provides the ball with the ability to withstand terrific abuse. The panelled cover will not absorb moisture and is built to resist ground scuffing. Made in official weight, size and reaction

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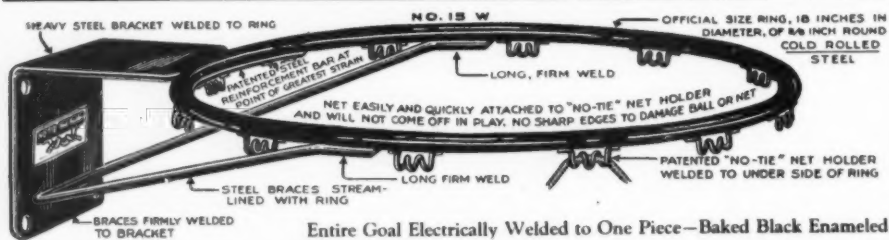
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The Basketball Goals Geared to Today's Streamlined Game

Thanks to modern "No-Tie" Basketball Goals, the nuisance of lacing or taping nets to goal rings is rapidly being abolished. The convenience and perfection of the "No-Tie" net holder, combined with the smart design, the

strong construction and the excellent workmanship and finish of "No-Tie" Goals, have made them increasing favorites with thousands of leading schools, colleges and recreational centers.



The above diagram illustrates one of several numbers in official type "No-Tie" Goals. Note the smooth, flowing lines; the sturdy, clean construction, and the simplicity of the net holder.

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Pep Builders, Inc.

(Continued from page 20)

to noon on the day of the first football game.

"Rules" always include the learning of the school songs and yells. The school song has been recorded, and it is not unusual, just before freshman day, to hear it burst forth at the close of a freshman English period.

At the freshman assembly, which is in charge of an assembly chairman, prizes such as all-day suckers, dolls and other ludicrous objects are awarded to "certain best characters." The assembly closes at about 12:00 o'clock and *everybody* goes to town for a pep meeting in charge of the cheerleaders. Do we get out a crowd? You bet!

While the cheerleaders have been at work with the pep club, and the freshman sponsor with the freshman assembly plans, another group known as the "Hello Girls" has been organized. This is a picked group which function throughout the year when called upon by their advisor. This innovation, we believe, has done much in increase interest and attendance at games, plays and other affairs.

We take the telephone directory, listing some 400 names after duplicate numbers have been weeded out, and assign 20 to 24 girls to certain sections of the book. When called to the colors the day before an event, each girl makes a telephone round of her list. Her line goes somewhat like this: "Hello. This is one of the Baldwin High School 'Hello Girls' calling to remind you that the Baldwin High School Bull Dogs play So-and-So in their opening game of the football season tomorrow at the athletic field at 2:30. Will you be there?"

Meanwhile the band has been practicing and prancing, ready to boom it up from the bleachers or execute a few fancy turns on the field between halves.

Banners in the school colors fly from flag poles down town, multi-colored posters greet you from conspicuous places, fan dope has been appearing on both the front and school pages of the local paper, and season tickets, at bargain prices, are in the hands of every boy and girl in school.

Our tickets are novel in one respect. They carry this line: "This ticket is good for five games (we punch a number for each home game). If you miss a game bring a friend to the next game." We lose nothing by this arrangement.

After the game is over, win or

lose, good crowd or bad, our pep does not fritter away. The pepsters still go at it hammer and tongs. Before an out-of-town game, for example, a ten-minute assembly is held just before the noon hour. The student body whoops it up and the coach delivers a short talk. Students who want to follow the team are given permission to do so. However, any work missed must be made up by team and students alike.

The "big" game is another event that is celebrated. The day before the traditional foe comes over to try a little scalping, there is a bonfire on the school grounds. The freshman boys are given the privilege of assembling the inflammable ingredients. We have a good fire, plenty of pep and another good turn out.

Armistice Day is always celebrated with a football game, one year on a rival's grounds, the next at Baldwin. High school and grades attend assembly at 11:00 o'clock and are then dismissed for the day. Legionnaires and their wives are admitted as our guests regardless of where the game is being played. This courtesy admittance wins us a host of new friends.

Homecoming day

One of our football games is always set aside as a homecoming day game. We send post card invitations to all our alumni, selecting one as guest speaker on a special assembly program. Prior to the assembly, the football squad, by secret ballot, selects a queen and two attendants. Announcement of the winners is withheld until assembly time. In the afternoon, on the athletic field, just before game time, the queen is crowned with pomp and ceremony by the captain of the team.

A loudspeaker is available at all our football games, thanks to one of the local men. Play by play descriptions, chatter and musical interludes add appreciably to the enjoyment of the game.

During the basketball season, the pepper pot is kept at fever heat. We muffle the boom of the band and have it play at all games. The cheerleaders liven up things, sport write-ups continue in the paper, season tickets are for sale on a cash or installment plan basis, there are special features at certain games, and a family ticket at a special price.

Win or lose we go on in a college town where "college athletes do a better job of this or that." We pay all our bills from athletic association funds, add some \$250 worth of equipment to our lockers, insure our teams and look forward to another season.

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SIX-MAN FOOTBALL DEFENSE

By R. O. Duncan

R. O. Duncan, a former high school man who is now assistant football coach and instructor of physical education at the University of Illinois, offers a concise, meaty analysis of six-man football's forgotten department—defense. Mr. Duncan has appeared at many coaching schools in the role of six-man football instructor, and is author of the latest book on the game, "Six-Man Football."

DEFENSE in six-man football is not yet receiving the attention it merits on the practice field. The cause is not difficult to locate, stemming directly from the roots of the game. With a liberal forward passing code and fewer men on the field than in regulation football, the game naturally places a premium on attack. So alluring is the promise of easy touchdowns that many coaches spend practically all their time forging bigger and better attacking weapons.

No one will deny that the six-man game is primarily an offensive game when compared with regulation football. But this fact alone does not solve the problem of defense. Coaches who operate on the theory that a good offense is the best defense, and let the defense take care of itself, are whistling past a graveyard. When the opponents have the ball, and a good team will have possession much of the time, call it whatever you choose but to the practical minded you are on defense.

The only way to repulse the foe and recover the ball is through a sound, carefully thought-out defense. The foundation for this plan must be laid on the practice field.

Practice on tackling

As in the parent game, the foundation of a good defense is hard, accurate tackling. Too many coaches take tackling for granted. They try to make tacklers of the boys by driving them and exhorting them to be brave. Actually this fundamental requires the same sort of training and practice as for any other basic technique.

The player should begin with the head-on tackle on the dummy. This type of practice will develop technique, improve leg drive and condition the body for the live tackling that will follow. The following points should be impressed upon the player:

1. He must have his head up and his eyes open at all times. Stress this point continually. "Blind" tack-

ling is the cardinal sin of tackling.

2. He must have his body under control so that he can step to either side should the runner attempt to evade him.

3. The arms should be out in front at the time of contact. As he drives his shoulder into the thighs of the runner, the arms should clamp viciously around the runner's legs.

4. He should continue to drive after contact is made. Many boys err by dragging and letting up after establishing the initial contact.

5. Do not squat and wait for the runner. Continue to drive until the man hits the ground.

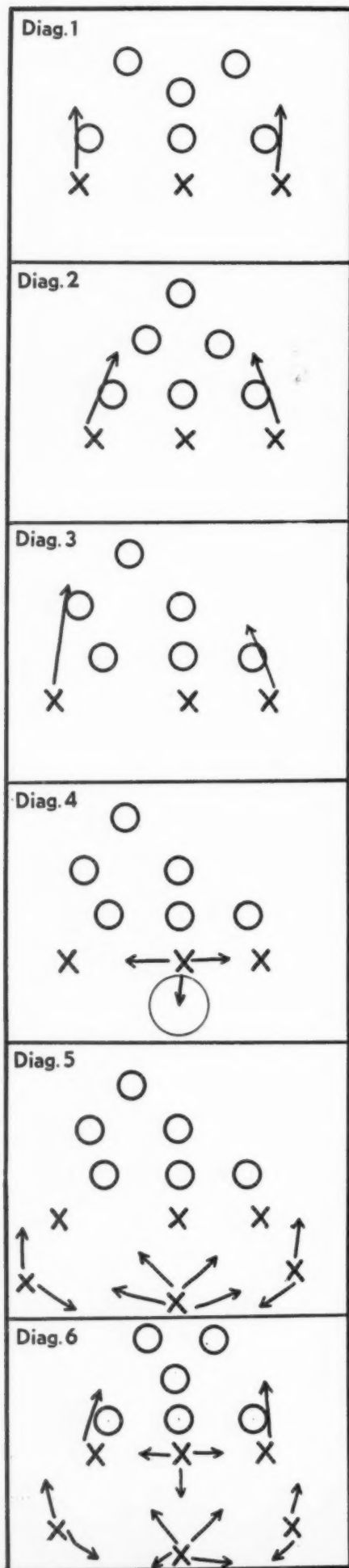
Side tackle

The same coaching points apply to the side tackle. The execution of this tackle, however, is different due to the angle of approach. There is a difference of opinion as to whether the tackler should throw his head in front or in back of the runner's legs. While it really doesn't matter, just so long as the tackle is made, I prefer the head going behind. This method is safer for the average six-man player who is not highly skilled in tackling.

The tackler should hit the ball-carrier about halfway between the knees and hips, keeping his head up and away from the danger of being struck by the runner's feet. He should remain on his feet until contact is made. At this moment, he should throw his arms viciously around the ball-carrier's thighs and continue to drive forward until the runner "bites the dust." The same coaching points apply as in the head-on tackle, namely: eyes open, head up, good balance, don't squat, grab, and keep digging.

Opportunities for tackling from the rear frequently arise in six-man football, due to the open nature of the game. The rear tackle is simple enough in execution. The defensive player must overhaul the ball-carrier and take him to the ground by tackling him high around the waist. The tackler who tries to pin his man with a low tackle faces double trouble. There is danger of injury and a strong possibility of missing the man entirely.

The fundamentals of individual defense are much the same as in the parent game. Against an offense that deploys in more or less of a compact formation, the defensive ends must always line up on the



outside of the offensive ends. Against a T or punt formation, the ends play off the outside shoulders of their opponents (Diags. 1 and 2).

When the attacking team drops into a single wingback formation, the strong-side end should play off the wingback's outside shoulder and the weak-side end off the outside shoulder of the offensive weak-side end (Diag. 3).

These positions are not sacrosanct. They will vary according to the position of the ball on the field, number of the down and the yardage to go.

The defensive ends rush on every play. If a run develops, they must prevent the ball-carrier from getting around them. The end to whose side the play is being run drives in hard and smashes the play. The other end rushes but watches for a reverse.

In the event of a pass, both ends rush the passer as fast as they can. If the passer is eligible to run with the ball, the ends must protect their flanks as they rush. The best defense against a good runner or passer is two hard-charging ends.

Duties of center

The center is responsible for short passes over the center of the line; consequently, he plays a waiting game. If a run develops he goes to the point of attack hard and fast. On a pass play he backs up and covers his zone. Some coaches prefer to have the center always rush, but I believe the waiting game is more fruitful under most conditions (Diag. 4).

The halfbacks deploy outside their ends, about five to eight yards back against a compact formation and from ten to fifteen yards against a punt formation. The position of the halfbacks will depend upon what type of attack appears imminent.

The first duty of each defensive halfback is to watch the offensive end on his side. It is imperative that the halfback locate his end before every play and look toward the sideline for a "sleeper." Many coaches think the "sleeper" went out with the handlebar mustache, but if you look up the records you will find that only last year Illinois scored on Michigan with it.

On a running play, the halfback on that side should come up fast on the outside and make the tackle. The other halfback holds his position for a moment and watches the offensive end on his side to be sure that a delayed pass to the weak-side

(Continued on next page)



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end is not in the offing. When that possibility becomes unlikely, the halfback swings across to take the place of the safety man, who has moved up to help the other halfback make the tackle.

If a pass develops, the halves cover their men or their zones depending upon the pass defense they have been taught.

The safety man plays about eight to fifteen yards deep against a compact formation and 15 to 25 against a punt formation. The position of the safety should be very flexible. A smart player will vary his position according to the down and the number of yards to go.

Hard-working safety

The safety man has more work cut out for him in six-man than in eleven-man football. He must play close enough to help on all running plays and passes, and should be able to "smell" a punt and drop back in time. His first responsibility, however, is to help stop runs and passes. He should be quick to back up either halfback on running plays, and must cover his zone or man on passes. **Diag. 5** shows the play of the halfbacks and the safety man against running plays.

There are any number of team defenses, the best of which, perhaps, are the 3-2-1 and the zone pass defense.

The play of the ends has already been discussed. The stance of the defensive center depends upon the position of the offensive quarterback. Ordinarily the center should play in front of the offensive center. But if the quarterback sets up to one side of the offensive center, the defensive pivot should play to that side.

Diags. 6, 7, 8 and 9 show 3-2-1 defenses against various formations. The arrows show the path of the defensive men against running plays and the circled areas indicate the zones to be covered.

It is impossible to give any set defense against a spread without knowing the exact nature of the formation. The men who go out wide are only dangerous as pass receivers. If only one opponent goes out wide, the defensive halfback should go out to cover him. If a second man goes out on the same side, the defensive end should go out with him.

The defensive center should remain in a balanced position to cover the center and quarterback on plays through the line. All of the

backs should play a little deeper.

A man-to-man defense with the safety always playing the ball is probably the best defense against a spread. **Diags. 10, 11 and 12** illustrate the various defensive positions against three different spread formations.

Kicking off

There are several important points to observe in kicking off. First, the kickoff should be high. The six-man field is short and the kick need not be long. If it is high in the air the kicking team can get down under it before the receiving back can get under way. Never kick to the star receiver. Always kick to the weakest back on the receiving team. If they are all tough, kick out of bounds and let the opponents put it in play on their 30-yard line.

A coach should work as hard on defense as he does on offense. He should drill his team thoroughly on individual assignments and team play. Pass defense should be practiced at least twice each week. It is important that players know how to knock a pass down. The ball should never be hit to the side or into the air. It should always be batted down toward the ground.



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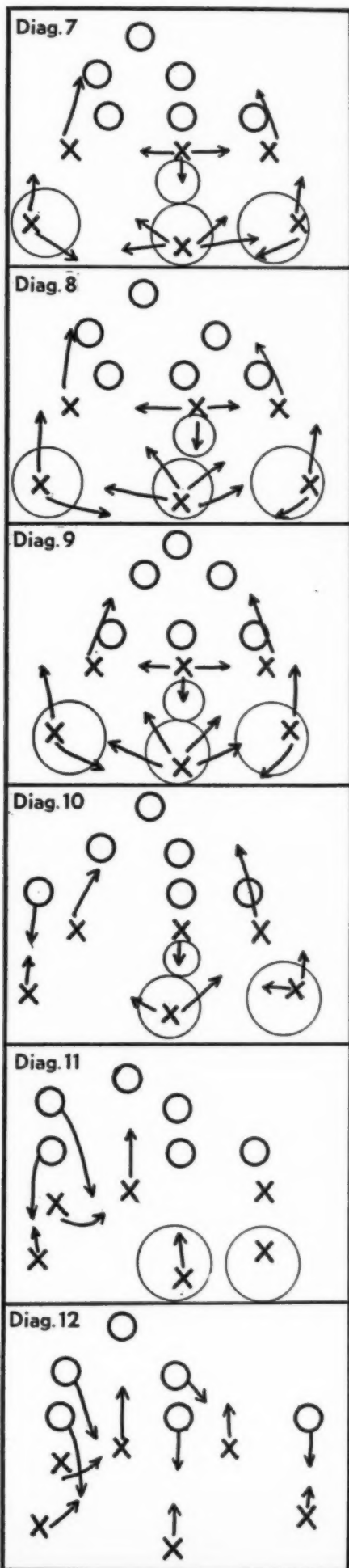
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Controlled Kicking

(Continued from page 10)

under the lower middle seam, the following advantages are gained: (1) The ball can be controlled until the very last second before it is placed on the foot. In fact, it can almost be laid on the instep of the kicking foot for both the end-over-end and spiral punts. (2) It can be better aimed and the hand moved up, down or sideways to effect a kick for height or direction. (3) It leaves the other arm free to assist in balance.

The ball thus cupped in the right hand (left for a left-footed kicker) with the fingers of the left hand steadying the front end of the ball, is under perfect control. The ball should be held on a direct line with the kicking foot. The target is sighted and from that point on there must be total concentration on the ball.

The right elbow is held close to the side to prevent fatal slices. The punter takes a half step forward on his kicking foot and then a full and natural step forward on his balance foot, the balance foot being carefully aimed at the target and kept solidly on the ground while the kick is made. At the same time, the left hand is taken off the ball and brought back to aid in balancing.

The ball is placed on the kicking foot by withdrawing the hand from under it. It should be contacted at knee height, not too far out nor too far in. The kicker alone can determine how far out the ball should be placed. He must learn for himself that any great variance will throw off his balance and timing.

The two types of punts, end-over-end and spiral: The end-over-end punt is executed by placing the ball on the middle of the instep so that the under middle seam or line of the ball coincides with the center line of the shoe. Thus, the under middle seam or line of the ball, from tip to tip, will coincide with an imaginary line that begins with the middle of the lower shin and continues to the middle of the shoe at the toe.

The spiral punt is effected by placing the ball on the instep of the foot so that the front tip is pointed in toward the body, about one to one and a quarter inches to the left (for a right-footed kicker) from the center of the toe. The inner side of the rear tip of the ball will slightly touch the outside of the ankle.

Many amateur kickers try to produce a spiral by turning the knee in and contacting the ball on the side

of the foot. This is hazardous business that should not be encouraged, as it is conducive to bad slices.

Timing and follow through: This involves the last important phase of the kick. Timing is rhythm and co-ordination. We all have some sense of timing, which may be fair, good, or excellent. In teaching this fundamental, I believe that the boy at first should do all his kicking in slow motion and with little force.

While giving a course on kicking at the World's Fair (New York), I handled a boy who had been getting poor results last season. I suspected his timing was off. By kicking accurately at a bull's-eye six or seven yards away in the slowest of motion, he not only picked up the right timing but improved his marksmanship.

Slow motion kicking enables a boy to see just what he is doing, to think out carefully each phase and to get the fundamentals down pat. I believe heartily in taking pictures of kickers in practice and games. There is no more scientific method of diagnosing kicking ailments, especially that of split vision.

Follow through is the very last phase of the punt. The length and speed of the follow through governs the height and speed of the kick. Too many boys try to kill the ball. The harder they smash it the less distance they get and the wilder their kicks are apt to become. It is the even, well timed sweep or follow through that makes for distance. When a boy starts to smash at the ball I tell him to kick a short 20 yard punt. When it carries 35 yards he is amazed. It is a proof to the boy that a football responds easily to moderate power.

There would seem to be three zones of kicking, and, therefore, three type of punts.

Zone 1: When the ball rests inside your ten-yard line. Here your back is against the wall and your kicker may be standing well behind the goal line. Power and distance are desired. The punt should be angled slightly away from the safety man to make certain there will be no material return. It should be a medium height spiral punt, for the spiral is a streamlined kick and goes farther against wind, whether a breeze or a gale. The stronger the oncoming wind, the lower the spiral punt should be.

If the player is close to the sideline with the wind coming diagonally across, it is dangerous to kick

along the sideline; a slice would be disastrous. In this situation, you are forced to kick a low spiral more or less into the wind. Otherwise, try to angle the ball away from the on-coming gale. Use the wind like a sailor does for tacking. With the wind at your back, and distance and power the object, use a long follow through to get a high punt that will be helped along by the breeze.

Wind conditions are vital. I study them with my kickers before a game. I did this with Peterson, captain of the Connecticut University team last fall. Against a terrific gale, by tacking with a long spiral punt he got 45 yards. Our opponents' kicker a little later boosted a high booming punt against the same mild tornado and got a meager 20 yards and even less on the back roll. The difference, I believe, in exchange of punts set us up for a touchdown.

On a distance and power punt, the ankle should be flexed and the toe depressed to insure a clean get-away and a long roll. On a wet or a windy day, the safety man may not elect to try to catch those punts. Here is where a long roll will pick up added yardage. The kicker should go with his kick—get his body in back of it—and follow after it by stepping through and never falling back off balance.

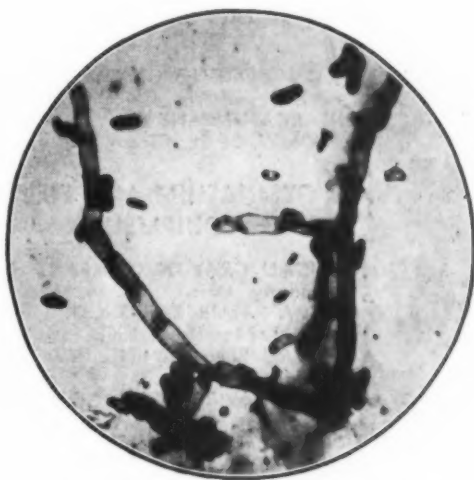
Zone 2: From your ten-yard line to the middle of the field. This is the area for an offensive ground gaining quick kick. The kicker is about five yards back from center and for deception assumes a stance as if to run or pass. First, he fades back with the kicking foot followed by the balance foot. The center times his snap back so that the kicker will receive the ball just as the balance foot touches the ground. By this time the kicker has come up to a normal kicking stance and it is too late now for the safety man, who is in close, to run back.

As the balance foot comes back it is aimed at "coffin corner" and the kick is then executed. It should be a low fast kick (seven to eight feet in the air) with a medium follow through and fast timing to give low trajectory and speed. The front tip of the ball should be slightly pointed down, the ankle flexed and the toe depressed. The kicker should follow through after the ball, that is, walk through after his kick.

The quick kick should be an end-over-end punt as this type of kick gives maximum speed, distance and true direction to the roll. It should be tried on first or second down, never after, always with the wind at the kicker's back and aimed to the more open side of the field.

(Continued on page 41)

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Controlled Kicking

(Continued from page 39)

Zone 3: From the middle of the field to the opponents' goal line. Here a power and distance kick is pointless unless you want to give back 20 yards to the opponent by kicking over the goal line. A quick kick is also a poor choice in this zone as it carries too far and does not quite permit perfect accuracy.

The smart thing to do here is to wait until third or fourth down and then angle for the corner with a spot punt. By placing the ball out of bounds near the "coffin corner," the kicker not only withholds yardage from the opponents, but puts them in a deep hole.

The kicker is back ten to twelve yards as for a power and distance punt. As the balance foot is brought forward, it is aimed six yards to the right of "coffin corner." Every right-footed kicker has a natural pull to the left (the left-footed kicker to the right) of approximately 5 yards on a 45 to 50 yard kick. Hence, if the kicker wants to put it out of bounds on the one-yard line, he should aim six yards to the right of his target.

Objects off the field at the four corners should be noted before the game (a portal, a flag, a pole, etc.) and used as guideposts. The object is sighted, as in all kicking, before the ball is punted. From then on, the paramount rule of all kicking must be observed—*eye on the ball*.

The end-over-end punt is preferred in this situation, for if it touches the ground before it reaches the sideline, it will roll straighter than a spiral punt, and get a truer marking from the official.

Here are a few things coaches will find helpful to keep in mind:

1. Put the kickers under pressure during practice. Every kicking day should be a Saturday.
2. Have the kicker pedal his kicking leg, flex his ankle and stretch the limb before he begins to kick.
3. Watch for leg injuries. Treat the leg that kicks as carefully as the arm that pitches.
4. Soft-toed shoes that fit well are first on the preferred list of footwear.
5. Remember, too much kicking is as bad as too little.
6. Kickers are made in the spring and summer. It is the highly developed art of football and it takes time to develop that art.
7. Have the kickers work as much against the wind as with it.
8. Praise the kicker when he does well, help him when he makes mistakes.



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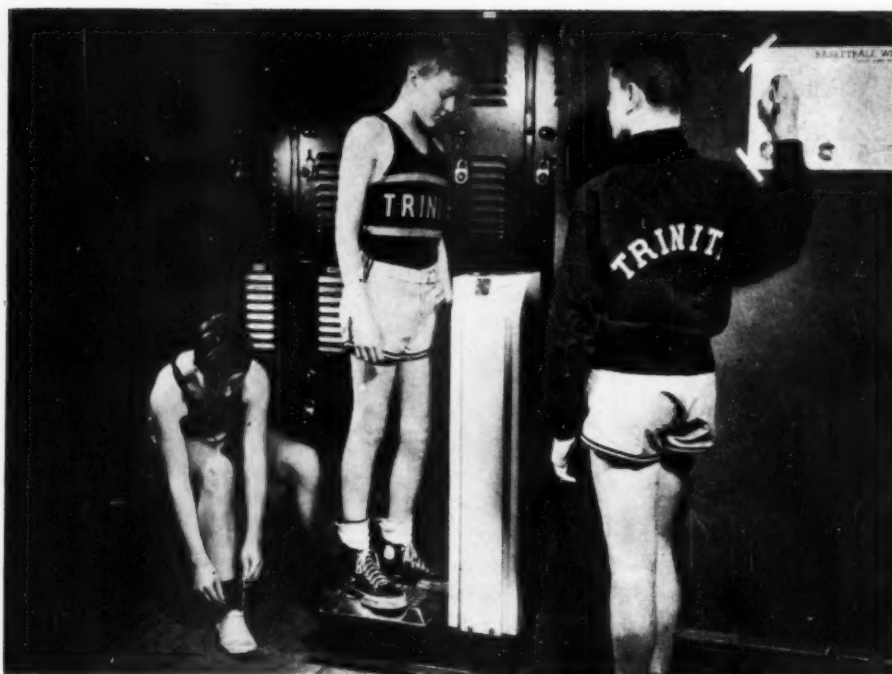
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DIET FOR THE ATHLETE

By Wilton M. Wilton

Wilton M. Wilton's article on the progress of dietetic creeds for athletes represents a chapter of his exhaustive study into the relationship between dietetic control and conditioning in athletics. Mr. Wilton is basketball coach at Santa Barbara State College.

FOR all the progress made in the athlete's diet, an extraordinary diversity of ideas still prevails relative to the diets recommended for athletes and the value of the training table.

As far back as 1924, Walter Camp stated, "The subject of diet has been so discussed, rediscussed and theorized that if one tries to study it carefully he soon becomes confused by the conflict of dietary creeds."

Meat, for example, was once considered the all-important food factor in the athlete's diet. Fruit and vegetables were regarded with no particular appetency, and any food with a sugar content was forbidden. The ban also took in practically all liquids. The resultant, almost constant, thirst the players had to endure was probably the most harrowing experience of the training season.

In a mid-football season visit to a university, Camp discovered that the team usually lost its games during the second half. At this stage of the game, the men showed signs of fatigue, exhaustion and indifference.

Camp immediately turned his attention to the training table. The room, he found, was unpleasant, and the tables untidy. The pre-game luncheon consisted of cold roastbeef and oatmeal water.

The father of American football advised a change of menu, consisting of a lamb-chop, a baked potato and ice-cream. This meal was attractively served. According to Camp, the effect on the men's spirit was immediate.

They ate heartily and with pleasure, the conversation was cheerful and they got up satisfied, optimistic and ready. The game came out successfully and, under the new regime which followed, the team came back with a strong finish.

Today, although there are various ideas in regard to the athlete's diet, coaches generally consult dietitians and physicians in drafting their seasonal menus. They seem to be in complete accord on the question of dietetic control, and yet a survey of their choice of menus will show that they have a tendency to avoid such considerations as individual requirements, allergies and other idiosyncracies.

We all know that individuals are not identical in temperament, physique or body functioning. Hence a blanket diet which apparently assumes that what is good for one is good for all, is unpalatable. Boys who eat food which is not suited to them may suffer bad after-effects.

Most coaches concur on these fundamental facts, as outlined by Carl E. Erickson, trainer at Northwestern University.¹

1. Do not eat more than three meals a day.

¹ Erickson, Carl E., "Diet," *A Handbook for Winners*, p. 11.

2. Absolutely abstain from eating between meals.

3. Positively do not take prescriptions containing vitamins, iron or other elements, except under advice of physician.

4. Eat slowly. Do not overeat; rather stop eating while still hungry.

5. Eat sparingly before a contest. If the stomach is not working to digest, blood and therefore energy can be used for action.

What mention is made to athletic dietary accents the importance of game-day food choices, yet there are a legion of boys who, on trips, have been permitted to eat so much that they suffered the effects for days.

In connection with the elapse of time from ingestion through digestion, Sherman sets the requirement at eighteen hours for the large intestine alone. There is a possibility that the food consumed the day, or even two days, before the contest may play a more important role in the dietetic condition of the athlete than the meal taken several hours before the game.

The day of the game

Dr. L. H. Bohler of the University of Missouri has this to say about food consumption the day of the game: "Before the game we do not feed a noon meal, but give a heavy breakfast of energy-producing foods." Sansum and Bowden have somewhat the same idea in mind when they state, "Athletes should enter competitive games without food or with a very light meal. Their energy comes from the burning of their own lean meat."

Unless food is given ample time to digest thoroughly it is of no value to the individual. If a heavy meal is consumed, it takes too long to digest; therefore the bulk of it remains in the stomach. The stomach lies very close to the heart and lungs and this undigested mass occupies a part of the space needed by these organs when the body is taxed by strenuous exercise. The excitement of the pending encounter may further delay digestion so that food which would normally be digested in several hours may be retained in a partially digested state.

An analysis of the various menus now in use will reveal that the coaches or trainers agree on some foods and disagree on others. Williams and Hughes are of the opinion that as long as the diet for athletes is balanced, what one eats is not so important as when and how much one eats. Bill Frey, athletic trainer at the University of Iowa has

(Concluded on page 56)

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Athletic Health Practices

(Continued from page 14)

Yet things like that happen every day in the sphere of sports.

According to Dr. Frank J. Jerka, former director of public health in the State of Illinois, the common cold is a bacterial disease, spread quite frequently through germs left "by infected persons on objects such as cups, clothing, towels, etc., and by direct personal contact..." Patty and Van Horn² found 1092 cases of colds, representing 82 per cent of the illnesses of 12,000 athletes in a survey in Indiana. These colds resulted in 2027 days missed from school, or 60 per cent of all absences; and 658 contests missed, or 55.8 per cent of all the contests played.

A state-wide survey³ by the author four years ago showed that in nearly every instance where the administrator stated that the use of the common towel or the common drinking bottle was permissible, he also checked the fact that one or more epidemics (which might perhaps have been stopped or even prevented) had occurred within the past two years!

Several years ago, Dr. G. I. Wallace of the department of bacteriology at the University of Illinois, made a laboratory analysis of fifteen towels which were thrown across the playing floor and used promiscuously by three competing teams in a state tournament. Each towel was placed in a sterile covered beaker with 1500 cc. of sterile water. Using a sterile glass stirring rod, the towel was agitated in the water for several minutes in order to get as many bacteria in suspension as possible. A count was then made to determine the number of bacteria present and the minimum number then estimated for each towel. Table 1 gives the results.

The towels in Table 1 which are starred were a group of six used by the same team over and over again during the entire tournament (three days, four games), because the coach was afraid "it might hurt their luck if they changed." What price superstition! They were defeated, anyway.

No plans had been made ahead of time to conduct such a test, because it was assumed that all participants would use the excellent water and

Table 1.

Towel	Bacterial count per cc.	Estimated minimum Bacterial count per towel
1. (control)	3	4,500
2. (control)	16	24,000
3.	1,000	1,500,000
4.	10,000	15,000,000
5.	20,000	18,000,000
6.	30,000	45,000,000
7.	61,000	91,500,000
8.	100,000	150,000,000
9.	127,000	190,000,000
10.	390,000	585,000,000
11.	460,000	690,000,000
*12.	1,300,000	1,950,000,000
*13.	1,550,000	2,325,000,000
*14.	3,400,000	5,100,000,000
*15.	3,600,000	5,400,000,000
*16.	4,900,000	7,150,000,000
*17.	8,000,000	12,000,000,000

towel facilities behind the baskets. Consequently, slides which could isolate the predominant forms of bacteria had not been prepared. However, such an experiment was attempted after one of the university games the same season, using the towels which the visiting team shared in the same promiscuous manner.

The findings of this experiment are outlined in Table 2.

Table 2.

Towel	Bacterial count per cc.	Estimated minimum Bacterial count per towel
1. (control)	5	8,500
2.	75,000	112,500,000
3.	160,000	240,000,000
4.	250,000	375,000,000
5.	1,700,000	2,550,000,000

Eight different forms of bacteria were isolated. Of this number, five were the forms usually found in nose and throat infections and respiratory diseases. It is highly probable that among the billions found on the towels described in the first table there were some which belonged to those dangerous groups. No data are available for the common water bottle or sponge but they are probably even more dangerous.

From a practical point of view, what can be done? The accompanying illustrations show a variety of excellent ways to dispense both towels and water. Whether you prefer wide mouth half-pint bottles or other glass or metal containers for water, make certain they are kept clean by approved methods of sterilization. Numbering each one will decrease the possibility of two or more boys sharing one bottle.

Paper cups, especially for use out of doors, have distinct advantages in that they are used only once and then discarded. Excellent portable drinking fountains and various types

²Patty, W. W., and Van Horn, P. J., "Health of High School Athletes," *Journal of Health and Physical Education*, December, 1935, pp. 51-2.

³Jackson, C. O., "Practical Sanitation in High School Athletics," *Illinois High School Athlete*, January-February, 1937.

of spray outfits with multiple nozzles are also on the market.

A number of towel manufacturers have practical and inexpensive plans already formulated for the installation of individual towel service not only for the athletes but for the entire student body. The cost is surprisingly low.

If a school is willing to tackle the laundry problem, it may buy a machine and have it run by the janitor. Plenty of soap and hot water, plus an antiseptic, keeps all athletic personal equipment and towels in fine shape.

Another method is to get bids from the local laundry. In some instances several small schools have pooled their laundering and secured even better prices. It is surprising how little this service actually costs.

The clean towel must not be contaminated in handling. The State of Illinois has a public health regulation forbidding the distribution of clean towels over the same counter the soiled ones are turned in.

The janitor who takes care of the gymnasium has a most important position. He must be educated to an appreciation of his part in maintaining healthful and safe surroundings for the students, as well as a realization of the responsibilities this entails. Daily cleaning of all floors, mats, toilets and urinals, using accepted cleaning agents and approved methods, should be considered a minimum requirement.

Most athletes can probably be conditioned to go without water or towels until the half, but this practice is seldom followed. Therefore, if we include a flashy exhibition of training and first aid during time outs, reason demands that we do so in conformity with accepted social and health standards. Furthermore, we are not consistent if we follow an approved policy during our contests and ignore it completely during practice sessions in the same sport.

Voltmer and Esslinger sum up some of the philosophy of this article when they say: "Since the coach has so frequently proclaimed the health values of athletics, he should, to be consistent, conduct athletics with the health of the players constantly in mind. . . . The continued use of filthy equipment merely for the sake of superstition cannot be warranted. . . . When the philosophy 'to win at all cost, costs too much' becomes widely prevalent, the health objective of athletics will be more fully realized than it is today."⁴

⁴Voltmer, E. F., and Esslinger, A. A. *The Organization and Administration of Physical Education*, p. 223.



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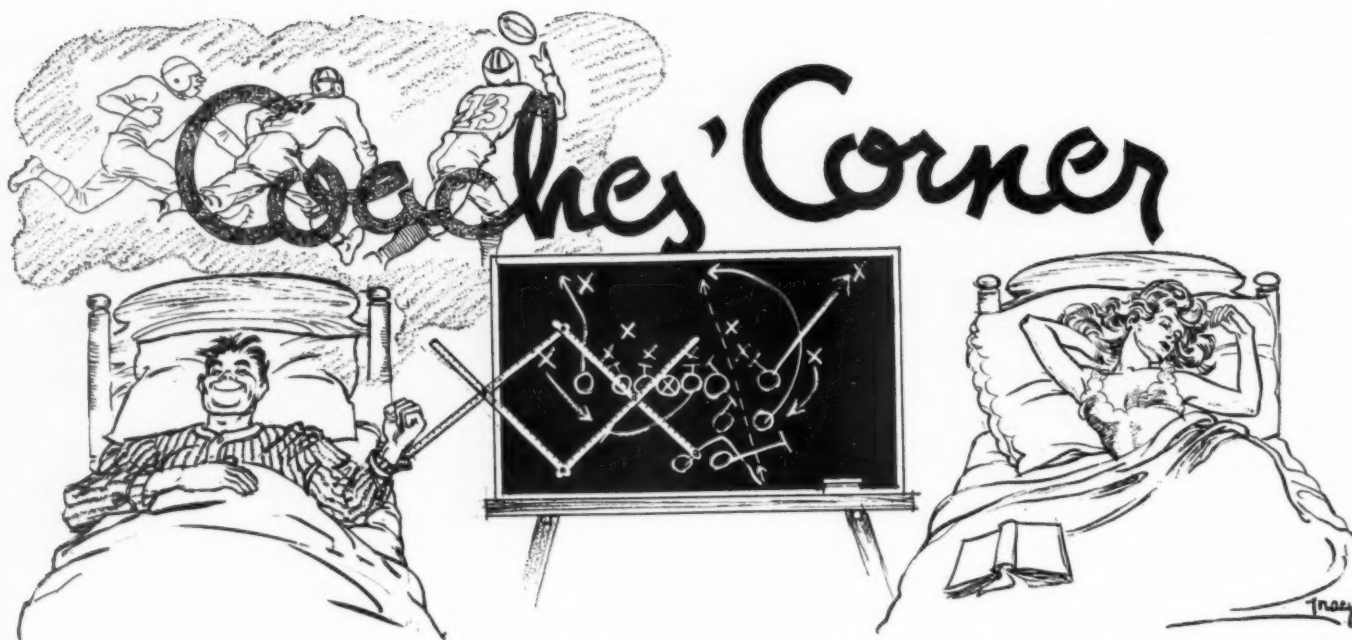


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If you have something for this column send it to Bill Wood, Evanston Township High School, Evanston, Illinois.

Once the football season gets underway, every coach is haunted at night by strange hieroglyphics which flit in and about his comatose cerebrum. Once in a while the o's and x's fall into a wonderful pattern, and, lo, there before his unseeing eyes is the perfect play. Unfortunately by the time he opens them, the mirage has faded away and no amount of concentration can bring it back.

From now on, Mr. Coach will be able to reap the fruits of his subconscious cogitation. Our new Dream Recorder, shown above, will do the trick. It operates on a radiosopic principle, radiating energy from the brain through the widget and thence on to a nearby blackboard.

The object at the right of the board does not come with the invention.

Here it is almost fall again, another football season coming up, and two dozen letters from last year still unanswered. Reenforcements for that pile, however, are always welcome. We hope this year to add another long list of names to our C. C. C. C. (Coaches' Corner Contributors' Club) membership roll. Send along anything you think might be interesting. Oddities, reminiscences, sports history, unusual records, stories, suggestions, criticisms, and questions on sports are all grist for our mill.

A few odds and ends from the summer sports calendar insist upon making an appearance before the entrance of King Football. A hole-in-one gets little attention in the golf world anymore; there have been too many of them. It is a bit on the unusual side, however, to open a water tap with a 211-yard tee shot. Golf Coach Charles Kennett of the University of Iowa managed to turn the trick a few weeks ago at the tenth green on Finkbine Field, Iowa City.

Buzz Arlett, manager of the Hutchinson, Kan., Pirates in the Western Association, has thought up a grand way to break up a losing streak. After his team's ninth consecutive defeat, he invested nine dollars in nine cats, all black, and distributed them among his players. In the first inning against Joplin, Manager Arlett chased one of the cats toward Pitcher Johnny Orr, and then drove in two runs. He repeated the stunt in the ninth with the score tied at eleven-all, two out, and a runner on first. He tripled. Moral: Should you lose eleven straight this fall, take eleven dollars from the athletic treasury and invest it in black cats; that is, if you still have eleven dollars in the treasury after losing eleven games.

The big film of the year featuring football promises to be *The Life of Knute Rockne*, starring Pat O'Brien and a quartet of famous coaches, Howard Jones, Pop Warner, A. A. Stagg, and William H. Spaulding. Jim Thorpe, the great Indian athlete, also acts in one of the sequences.

When the Kansas State coaching staff wants to assemble the football squad, all they have to do is call out, "Hey, Captain!" There were twenty-nine former high-school captains on last year's freshman string.

When St. Joseph's College took football off the sports schedule and substituted an intramural program embracing everything from bicycle racing to ballroom dancing, officials admitted it was just an experiment they hoped would work. Nowadays they proclaim the program a "big success" with 400 of the school's 500 students taking part in some sport.

The popularity of the experiment was attested last May when 40 students turned out to see who could pedal a bicycle around the cinder track in the best time. Who won? The track captain, Frank Brennan. The time, 40 seconds flat.

More than 50,000 were in attendance this summer at Finland's "Home Olympics," honoring the war dead. The outstanding achievement in athletic competition was that of Matti Jarvinen who threw the javelin 241 ft. 6 in.

Add to your list of war casualties England's *Golf Illustrated*, the world's only weekly magazine dealing with the tees and fairways. It has suspended publication "for the duration."

Just what effect is this going to have on the enthusiasm of the feminine fans? Six members of the University of Nebraska football team are married. If this sort of thing keeps up, just how is a poor football girl going to work up any interest in the gridiron sport? Among the Cornhuskers who have listened to the wedding march are Henry Rohn, Roy Petsch, Clarence Herndon, Harry Hopp, and the Kahler brothers, Royal and Bob.

Since there are several schools that begin basketball practice on the first day of the term and end on the last, we should like to point out that Helen Van Houten's record of 44 points scored in one tournament game still stands. She averaged something like a point-a-minute for Hansell, Iowa, last season.

Coach Lloyd Skor of Plentywood, Mont., would like to try that ghost basketball stunt we mentioned last January. For the details we are referring him to the basketball coach at Ripley, Ohio, who had the original idea for the show, we believe.

Robert Kurrus, coach at Lansdowne Junior High, East St. Louis, Ill., likes his basketball as it was played a few years ago. He points out that too many changes of a technical nature make it difficult for the spectator to follow the modern game. The amazing popularity of basketball has been

attributed to the fact that every spectator has always felt that he knew more about the game than anyone else, including the coaches, officials and players. Coach Kurrus wants the rules committee to leave the sport alone. He is even in favor of eliminating a few of the changes that have been introduced during the last three or four years.

While we are on the subject of basketball, have you read Margaret Weymouth Jackson's "The Hero," *Satevepost*, February 18, 1939? It ranks with Richard Macaulay's "The Cock-Eyed Wonder." And how about somebody helping us to locate a first-class swimming or diving story? After two years' searching, we are about ready to say "There ain't never been none sich, nohow!" A little help, please.

Charlotte, Mich., is right proud of native son Don Smith. His record of 26 letters in athletic competition, 16 in high school and 10 at Alma College, is tops in the nation. Smith's monograms include four each in football, basketball, baseball, and track from Charlotte High School and three each in football and track, and two each in basketball and tennis, from Alma College. Energy to burn.

Creighton University hasn't played a game yet this fall but Coach Skip Palrang is worrying about his Thanksgiving date—for 1941. A far-sighted, but somewhat optimistic, fellow, he has wired presidential-nominee Wendell Willkie about it.

Wonder what California is going to do about Eldon Bean of Princeton, Mo.? In one high school dual track meet, Eldon found time to win the broad jump, the pole vault, the 100-yard dash, the high hurdles, and the low hurdles. Of course, the boys from the land of sunshine have Cornelius Warmerdam to talk about. The school teacher from Tuolumne, Cal., has hit a new high in the pole vault. With the crossbar at 15 ft. 1½ in., Warmerdam was able to clear it with something to spare. The remarkable feat was accomplished at the American Olympics at Fresno late in June. Earle Meadows, former world's title holder, was fourth in the event with a vault of 12 ft. 6 in.

In demonstrating the manner of handling the ball in his spinner plays, Carl Snaveley, at the New York *Herald Tribune's* Coaching School, enacted the role of the No. 3 back, with Lou Little, of Columbia, as tailback. The Cornell coach spun and remarked that Little was the one man who really knew how this spinning ought to be done. Little then reached forward and quietly moved Snaveley's left elbow in an inch closer to his body. The class roared.

Little received no solace from Snaveley's generosity in diagramming his plays. He would gladly swap all this information for just one of Cornell's many stellar backs.

BILL WOOD

WILL YOU HELP FIGHT AMERICA'S No. 1 SKIN DISEASE ATHLETE'S FOOT (FUNGUS INFECTION OF THE FEET)

The startling conclusion of recent surveys is this: In the U. S. today, approximately 7 out of every 10 persons over twelve years of age are infected with **ATHLETE'S FOOT**; and the disease is as common among females as among males.

Now from all parts of the country come reports that with the aid of a new Mennen product—Quinsana Powder—a new degree of success is being obtained in the treatment of Athlete's Foot. "Symptoms cleared up in short time," "Use of Quinsana in shoes as well as on feet apparently checks disease more quickly and greatly reduces likelihood of reinfection" . . . Statements like these are

being received daily.

These individual reports are more than substantiated by results obtained with Quinsana Powder in large-scale tests. In various mass-eradication projects the incidence of Athlete's Foot has been reduced to **PRACTICALLY NOTHING—WITHIN 30-DAY PERIODS**. In these tests **NO OTHER MEDICATION THAN QUINSANA POWDER WAS USED**.

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The need for a drive against Athlete's Foot is great—your co-operation is urged now. Public educational literature is available on request.

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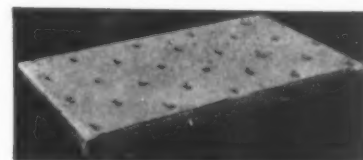
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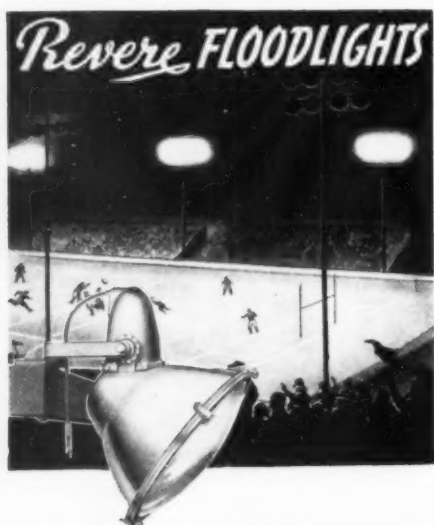


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Ability Tests

(Continued from page 22)

imately the normal curve of distribution; and, second, that by making use of this normal curve, and referring all scores to sigma distances above and below normal, the various standards of measurement may be used as denominate quantities. In short, any given sigma distance, either plus or minus, has the same value or significance whether it applies to feet in the broad jump, time in the potato race or kilograms in back strength.

The normal or average performance in each of the events was ascertained by simply adding the total scores and dividing by the number of boys taking the tests. It was then possible to calculate the standard deviation of the distribution of scores, by using the regular formula

of Sigma = $\sqrt{\frac{\sum X^2}{N}}$, or, broken down,

the square root of the differences squared of each individual score from the normal, divided by the total number taking the test.

Each boy's score was treated statistically for each of the forty events and a final summation made of all the standard scores. These scores ranged from 24.92 plus to 23.37 negative, confirming our belief that the total abilities of the boys followed a normal curve rather closely.

As a final step, we arranged the boys in the order of their ranking, beginning with the boy who made the highest positive score and working down to the boy who made the lowest negative score. We were thus able, at the end of the season, to compare our findings with those of the coaches.

The coaches made a number of interesting observations. Humphrey Harmony of East Technical admitted that he probably lost a number of excellent prospects by not having the test scores available before the season. Walter Shupp of West High was certain that had the scores been available he would have been able to save considerable time.

When we segregated the boys according to age, that is, 14, 15, 16, 17 and 18, and ranked each group, we found that the boys with greater physical maturity—the older boys—had the greatest amount of ability, and were the ones who had been mostly used during the season.

Harmony and Shupp asserted that this type of segregation invariably gave them a key to the abilities of the boys in each age group. From a coaching standpoint, this fact is of tremendous significance. In building



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for the future, for example, the coach may turn to the tests of the tenth grade boys and select for intensive training those boys who ranked well up on the list.

The general conclusion to be drawn from this rather searching series of tests is simply this: pick the smarter and the older boys to make up your team; and, from the younger age groups, pluck the smarter boys and those rather high in some simple group of physical ability tests to build for the future.

The coaches had one major criticism to make of the 40-item test. They felt that it was complicated and took up too much time. With the help of the Cleveland office, they are now working on a simplified test which will correlate highly with the results of the original test.

There are a number of single tests advocated by various experts. McCloy of Iowa believes in the efficacy of the Sargent Jump. Cureton of Springfield believes in the flexibility test, which has been validated insofar as swimming is concerned.

Simplified test

Other men in the field have different ideas on the subject. From such experience as I have had, I would employ the following combination of tests: the left hand dynamometer grip test for right-handed boys, and vice versa; lung capacity through use of the spirometer; the standing broad jump; and the potato race.

Since most of these are activities in which boys do not usually participate, I believe they tend to show native rather than acquired ability. Therefore, were I coaching a team I would seek, first, the age and intelligence of the boys, and, next, their abilities in the four events mentioned. I would then have no hesitation in making a selection.

In concluding I would like to pass along a suggestion to men with the ability, the time and the willingness to experiment in the field of tests and measurement. To develop a precise instrument of measurement, it is necessary to give a simple series of tests to every boy you have who is an outstanding athlete. The tests should be given every year until the results show a high correlation with success in football.

The experimenter will then have found the solution. He will have a procedure with which he is thoroughly acquainted and data in which he has implicit faith. He will then be able to apply a program of classification and selection that will make his past methods seem antiquated.

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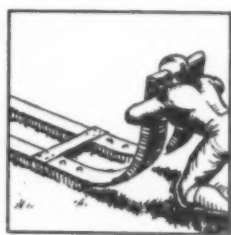
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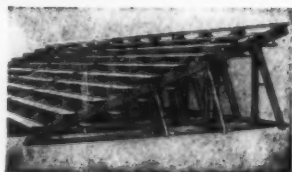
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New Books on the Sportshelf

FOOTBALL THRU THE YEARS.
By Dean Hill. Pp. 114. Illustrated—
photographs and drawings. New York:
Gridiron Publishing Co. \$2.50.

"**FOOTBALL Thru the Years**" is one of the most fascinating books, on football or otherwise, to cross our desk in a long time.

Dean Hill, whose collection of American football memorabilia is monumental, has dipped generously into his collection to give us what amounts to a pictorial history of the game. The textual material itself only subserves the illustrations. There are wonderful shots of old football programs, extraordinary photographs, old prints, magazine articles and other materials which the author felt would be of most interest to the reader.

Mr. Hill does not merely recite facts and figures in his writing. He traces the history of the game through the illustrations, and works in his text more or less in the form of captions. He describes the evolution of the various techniques and the factors which influenced their growth. The book also contains pictures of all the famous trophies and awards and explanations of how they originated.

THE BARNES DOLLAR SPORTS LIBRARY: *Softball, Six-Man Football, Boxing.* Illustrated. New York: A. S. Barnes & Co. \$1 each.

NUMBERS 14, 15 and 16 on the Barnes Dollar Sports Library hit parade come up to the best standards of their predecessors. Each volume is bound in cloth, illustrated, comprehensive and thoroughly authoritative.

Softball by Arthur T. Noren is a rather complete handbook on what is fast becoming our most popular group recreational sport.

The author, who is editor of the *Softball Guide*, outlines the technique of the game and how it differs from its hard-covered brother, the rudiments of each position and the fundamentals of batting, base running and team play.

The book also contains the official rules for 1940 together with interpretations. An exceptionally valuable chapter on equipment, layout of the diamond and the construction of backstops and bleachers rounds out the volume.

In *Boxing*, Edwin L. Haislet, boxing coach at the University of Minnesota, presents simply, concisely and graphically the technique of this ancient art. He outlines and describes in the proper learning sequence the fundamentals of successful boxing.

The skills are analyzed under the following headings: fundamental position, blows and blocks, footwork, defense, attack, counter attack, set-ups, ring craft and ring generalship, and training. The text is illustrated with

96 excellent freeline drawings based on action photographs.

In *Six-Man Football*, Ray O. Duncan, who may be found in the contributors' lineup this month, considers primarily the problems of the coach in the small high school. He assumes that the reader knows little or nothing about football, and, consequently, stresses all the fundamentals just as he believes they should be taught.

He covers his subject matter clearly and completely, supplementing the text with photographs, freeline drawings, 39 excellent diagrams, and valuable chapters on training and administration.

MANUAL OF FOOTBALL OFFICIATING (National Edition). Edited by A. R. Hutchens and Asa S. Bushnell. Pp. 52. New York: Harbas Co. \$1.

THIS 5- by 7-in. paper-covered manual has been prepared to meet the needs for a uniform system of football officiating. Laid out in much the same manner as a rules book, it describes techniques which have been proved sound by repeated trials throughout the country and are therefore entitled to be recognized and accepted as standard.

The contents include some important innovations designed to improve and simplify the mechanics outlined, but for the most part they combine the best features of the original Manual, published in 1935 by the Southern Football Officials' Association, under the jurisdiction of Mr. Hutchens, and of the similar handbook issued in 1938 by the Eastern Intercollegiate Football Association, of which Mr. Bushnell is commissioner.

HOW TO PLAY WINNING SOFTBALL. By Leo H. Fischer. Pp. 184. Illustrated. New York: Prentice-Hall, Inc. \$1.95.

MOST of us recall softball as a poor relation of baseball. It was a nice safe game back in elementary school, and was to baseball what beanbag tossing is to bomb throwing.

This type of softball is still the tired business man's delight on Sundays, but the real softballer will have no part of it. He plays a game that is as fast and furious as baseball. He fields and throws with zip and runs bases like a fire-engine streaking to a fire.

To the casual eye, the technique of playing the game bears a close resemblance to that of hard ball. But don't ever tell that to a softballer. There's no better way of inviting mayhem than to tell him the game is a miniature edition of baseball.

Any softballer knows there are enough differences to make softball a unique, thrilling and fascinating sport in its own right. Base-running, field-

ing, pitching and batting—all have their own technique.

Every effort has been made to present helpful information on all phases of the sport. The author takes up in turn the most effective methods of pitching, catching, playing each infield and outfield position, batting and base-running. There is a chapter devoted to umpiring and another to special advise for girls playing the game.

Because so many teams play at night, the author, who, incidentally, organized the Amateur Softball Association and now serves as permanent chairman of the Board of Governors, tosses in a chapter on night softball, which contains valuable information about the position and number of lights necessary to insure proper lighting. The book is capped off with an appendix of the complete official code.

New Film

TAPING TECHNIQUE. Produced by the Bike Web Mfg. Co. Four 16 mm. reels. Running time, 45 minutes. Sound or Silent. Free.

BIKE WEB'S venture into the pale of the cinema rates at least four stars worth of superlatives. As an educational feature *Taping Technique* should have a longer run than Rhett Butler's now famous flight with the zephyrs.

There have been other films on taping but very few have had the class of the Bike Web opus. The producers evidently have learned something from the mistakes of their fore-runners. There is nothing amateurish about their film. They have embellished it with excellent photography, splendid lighting and, in the best traditions of Warner Brothers, technicolor!

The film comes in four reels. The first reel starts out by showing how the tape is made and packed in the factory. The action then shifts to the training room, where the "star" (the trainer) is shown demonstrating the correct method of taping football players before a game.

He starts with the ankle, and after shaving off the hair with an electric razor, he applies the Gibney ankle bandage.

In the second reel, he gives a wrap for shin splints, a bandage for the knee, a bandage for an over-extension of the lower leg, and the treatment for charleyhorse. He adjusts a tensor elastic bandage in the next reel, after which he goes to work on bandaging the hip, rib, shoulder, and thumb.

In the last reel, the camera swings back to the factory for technicolor shots of laboratory tests and model training shelves.

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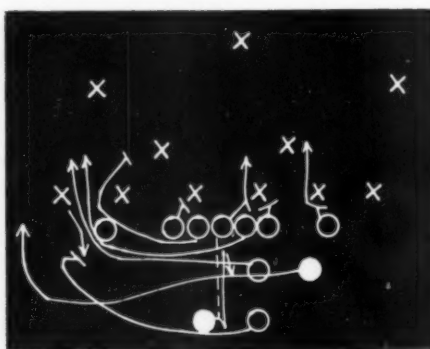
Coaching School Notes

(Continued from page 13)

fall. As the ball is snapped back to the left half, the left end drives the defensive right half to the outside. The left tackle takes the defensive right tackle out, and the left guard goes through to shove the defensive center also to the outside.

The center crosses over and clears the middle alley of opponents by driving the fullback to the outside. The right guard and tackle double team the defensive left guard to the outside, while the right end races down to keep the defensive left half out and away from the play.

In the backfield, the wingback takes the defensive left tackle to the outside at the same time the quarterback cuts across close to the line to mouse-trap the defensive right guard who has been let through. The left half half-spins, fakes to the fullback going toward the short side, steps off with the left foot, and slams straight through the hole over center.



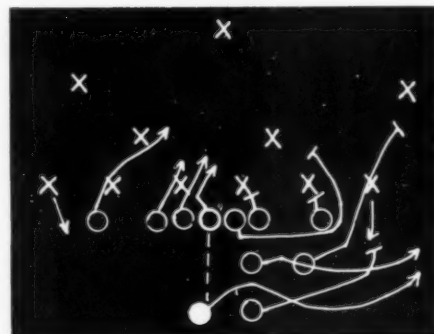
Diag. 8

The next play (Diag. 8) starts out the same as the delayed buck but winds up with a fake and wide sweep to the left. The left end takes the defensive right tackle in, the left tackle ties up the defensive right guard with a body block, and the left guard pulls out to race around and take the defensive center to the inside.

The center checks the defensive left guard momentarily and then goes through for the fullback. The right guard pulls out and races inside the defensive end to lead the play. The right tackle body blocks the defensive left guard, while the right end checks the defensive left tackle for two counts and goes down for secondary.

The quarterback crosses into the hole inside end and leads the play toward the defensive right halfback. The fullback fakes for the ball and continues around for a reverse body block on the defensive right

end. The tailback, after faking to the fullback with a half-spin, starts into the line as on a buck but slips the ball to the wingback about a yard



Diag. 9

and a half behind the scrimmage line.

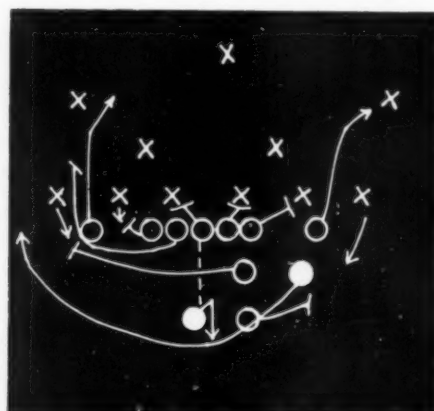
The wing delays his start, sliding along to his left parallel to the line of scrimmage.

In Diag. 9, a wide in-and-out run to the right, the left end, tackle and guard make their move much the same as in the off-tackle play (Diag. 5). Ignoring the defensive linemen in front of them, they go through at 45 degree angles and hit the first opponent who comes into their path.

The center checks the defensive right guard for one count and then charges through with the other downfield blockers. The right guard pulls out, runs inside the defensive left end and blocks the defensive fullback to the inside. The right tackle and right end body block the defensive left guard and left tackle, respectively.

The wingback fakes at the end and goes for the defensive left half. The quarterback takes two steps at the end and swings to the outside as a personal interferer for the ball-carrier. At the same time, the fullback gets an angle on the end and uses a cross- or reverse-body block to take him in.

The tailback receives a lead snap



Diag. 10

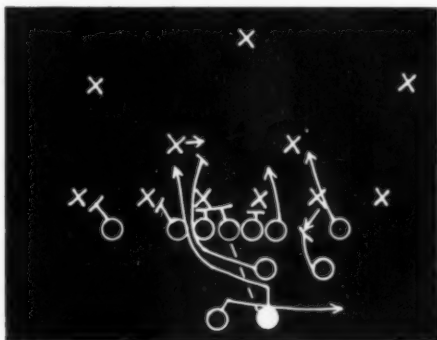
from center, takes three steps (left-right-left) toward the defensive left tackle and then swings out and wide around the end.

While adorning the blackboard with the hieroglyphics for the Statue of Liberty play (Diag. 10), Crowley advised the coaches to ignore all jibes and to use it as it will score touchdowns.

On this play, the left end goes down toward the defensive right halfback and then veers to the right to draw him out of position. The left tackle slides over and body checks the defensive right tackle, while the left guard pulls out and sprints inside the defensive right end to take the defensive center in.

The center slides over to block the defensive right guard. The right guard and right tackle body check the defensive left guard and left tackle, respectively, and the right end goes down to take the defensive left half to the outside.

As the ball goes back to the tailback, the fullback blocks the defensive left end and the quarterback takes the defensive right end in with a reverse body block. The tailback steps in and then fades two steps with the ball lifted as for a pass. To add to the deception, he surveys the field for a pass receiver. The wingback then comes around, takes the ball from out of his hand and continues wide around the end.



Diag. 11

Crowley's short-side buck is outlined in Diag. 11. The left end and tackle drive the defensive end and tackle out, at the same time the left guard and center double team the defensive right guard to the right.

The right guard body checks the defensive left guard, the right tackle goes through to block the defensive fullback to the outside and the right end races down to take the first enemy secondary he sees.

Meanwhile, the wingback screens the tackle to the outside and the quarterback goes through the hole inside tackle to drive the defensive center toward the inside. The tailback takes one step up and floats to his right. The fullback takes two steps (left-right) directly into the

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Advisor—Designer

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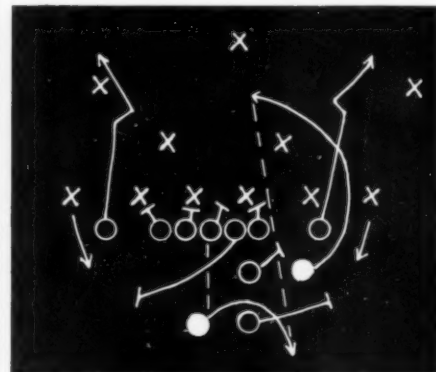
"COLLEGIATE" SIDELINE PARKA
Made of extra strong rubberized percale doubled to heavy blanket lining material. Double stitched seams. Raglan shoulders, fully cut to allow room for pads. Approximately knee length with full skirt so that garment will go under the seat and over knees when player is seated. Nicked, rustproof buckles in front. Extra large slash pockets placed high to make easily accessible when seated on bench. Furnished on special order in extra lengths or with zipper hood at an extra charge.
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Same material, construction, and colors as the No. 149, but 34½" in length. Available in this length only. Rustproof snap front. Zipper hood furnished at extra charge.
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line and then angles through the hole and cuts outside the defensive center.



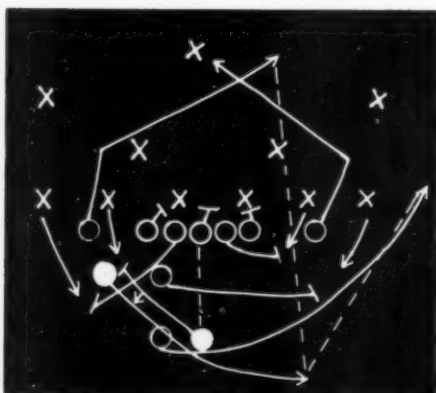
Diag. 12

The running pass outlined in **Diag. 12** has been used very successfully by Notre Dame-coached teams since 1933. The left end heads straight for the defensive right half, fakes a step to the right and then cuts deep to the left. The left tackle shoulders out the defensive right tackle, and the left guard checks the defensive right guard.

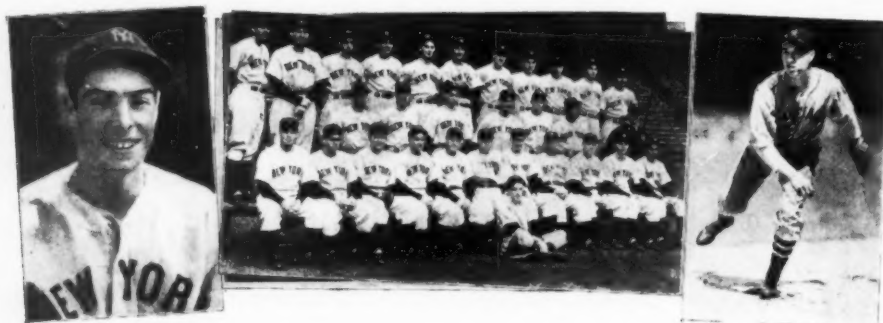
As the right guard pulls out to the short side for a crack at the defensive right end, the center fills the hole as a post. The right tackle works on the defensive left guard. The right end shoots for the defensive left half, fakes a step to the inside and then races deep to the outside.

Behind the line, the wingback swings to the outside between the defensive tackle and end, penetrates five yards into the enemy backfield and cuts to his left over center, reaching back for the ball. The threat of a run usually pulls the defensive fullback up and out of position.

The quarterback blocks the defensive left tackle out and the fullback does likewise to the defensive end. After receiving the snap, the tailback takes three steps as on a wide end run and fades back to pass. Later on, he may actually hit either end.



Diag. 13



FREE! BASEBALL PICTURES FOR YOUR ROOM!

Here are real he-man pictures to have on the walls of your room at home, or for your clubroom or camp! There's a swell action likeness of Bob Feller; a close-up of Joe DiMaggio; and complete team pictures of the league-leading Yankees and Reds for 1939, and the National League runner-up, the St. Louis Cards. All are rich sepia prints, ideal for framing. Bob Feller's and Joe DiMaggio's are 5½ by 8½ inches; the team pictures are 7½ by 13 inches.

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These five attractive pictures are yours as a **GIFT** when you subscribe for five weeks to **THE SPORTING NEWS**, the big baseball newspaper read by all your favorite players! It's filled with all the inside news of the game, personal facts about players, box scores

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A five-week subscription to **The Sporting News** costs only fifty cents—and with it you get the five baseball pictures for your room as a **FREE GIFT**! Better clip and mail the coupon right this minute!

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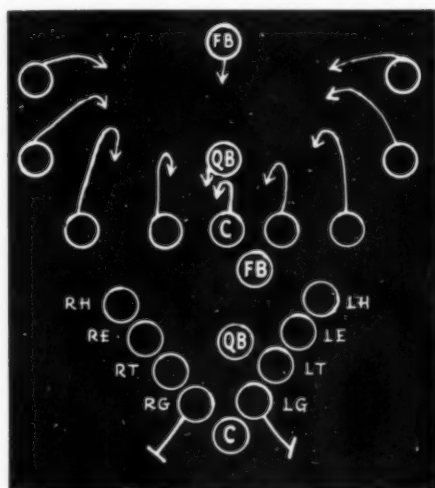
City

(Please print or typewrite)

For a reverse pass with a right-handed passer doing the throwing, Crowley shifts his backfield to the left (Diag. 13). The left end goes down five yards and angles to the right. The left tackle goes to work on the defensive right guard. His teammate on the right pulls out and drives the end to the outside.

Since the other guard must also pull out (he takes the defensive left tackle to the outside), the center holds position as a post. The right tackle blocks the defensive left guard, while the right end goes down five yards and angles to his left.

During all this activity, the quarterback has come back to drive the defensive left end to the outside, and the fullback has faked for the ball and gone into the right flat. The tailback starts to the left with the ball, gives it to the wingback and then blocks the defensive right tackle. The new ball-handler angles back deeply and passes to either the left end or the fullback, watching the defensive left halfback for a tip-off.



Diag. 14

For his last diagram, Crowley chose to outline the famous wedge used by Notre Dame teams in receiving kickoffs. As the ball is kicked, the players drop back as shown in Diag. 14, forming a wedge. If the ball goes to one of the halfbacks, he is replaced in the wedge by the fullback.

The ball-carrier heads straight up the field. As the defensive men come up, the guards fall out and block. The tackles replace them and take the next defensive men who are met. The center maintains his apex position as long as possible. When he is finally called upon to block, he is replaced by the quarterback.

Fordham, in the past, has come out with brand new offensive measures, involving a line and backfield shift.

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Guaranteed to give good wear
Also flags, tents and canvas covers of all kinds
Write for Prices.

A. MAMAUX & SON
120 BLVD. OF ALLIES PITTSBURGH, PA.

POCKET QUARTERBACK

The game every coach should use to improve his players "football sense" and to get more intelligent and enthusiastic crowds.

25 for \$1—\$3.25 per hundred—\$30 per thousand
Sell them at your games for 10¢ each
(Send for free sample)

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BOXING RING
A complete portable boxing ring designed for high schools and colleges. Two boys can remove ring and clear floor in 5 minutes. Steel posts and guy rods anchor in permanent steel plates. Conforms to Amateur and Collegiate Athletic association rules. Plans and setting up instructions furnished. Complete 18' x 18' ring including 1" endless manila ropes.
Send order to National Sports Equipment Co. 366-370 Marquette St. Fond du Lac, Wis.

The Athlete's Diet

(Continued from page 43)

worked out a generalized diet for athletes consisting of:²

Breakfast: Any cooked cereal, or two eggs, poached or soft-boiled. Fruit, any fresh fruit or stewed fruit, toast or zwieback, butter, jelly, coffee, tea or milk. Meat, that is, bacon or ham, may be eaten with breakfast in moderate amounts. Dry cereals may be substituted for the cooked cereals.

Lunch and Dinner: Meats should be baked, broiled or boiled. Avoid an excessive amount of pork and eliminate prepared meats such as bologna and hamburger. Bread should be at least one day old; fresh rolls and biscuits are better omitted. Rye bread and whole wheat or bran bread supply added bulk.

Vegetables should be fresh and in season. Peas, carrots, tomatoes, beets, turnips, cabbage (cooked only two minutes), corn, lettuce, beans, spinach and celery are the most desirable. Cauliflower and onions may be offered, but not in great quantities. One or two vegetables should be included in each meal.

All of the fresh fruits may be eaten. In general, it is desirable to have the dessert consist largely of fruit. Cooked or stewed fruits are just as satisfactory as fresh fruits.

In general, the simpler the dessert the better. In addition to fruit, such desserts as custards, cornstarch pudding, rice pudding, fruit gelatine, ice cream, prune whip, and tapioca are also desirable. Cake, pie and cookies should be avoided.

Milk, buttermilk, tea or coffee are used as beverages. Milk intake should be one pint daily. Avoid all condiments and highly seasoned foods. This includes ketchup and sauces.

An egg should be included in the diet every day. Soups are very desirable. Avoid all fried foods and all foods known to disagree.

Dr. Bilik's ideal diet for the training season lists no definite quantity of foods. He does not favor apportioning foodstuffs by calories. In his choice of foods he lists protein foods, an amount of fatty foods proportioned to the time of the year, green vegetables and fruit in abundance with carbohydrates forming the greater part of the meal.

Sansum and Bowden have deduced that training diets should be high in calories, 2500 to 4000 per day being sufficient. They also recommend ample protein, the amount depending somewhat upon the condition of the athlete.

Next month the author will cover individual differences in the diet relative to underweight and overweight conditions, nervous indigestion and allergies.

For catalogues, coaching literature and general information on the products of Scholastic Coach advertisers, use the master coupon on pages 55 and 56.

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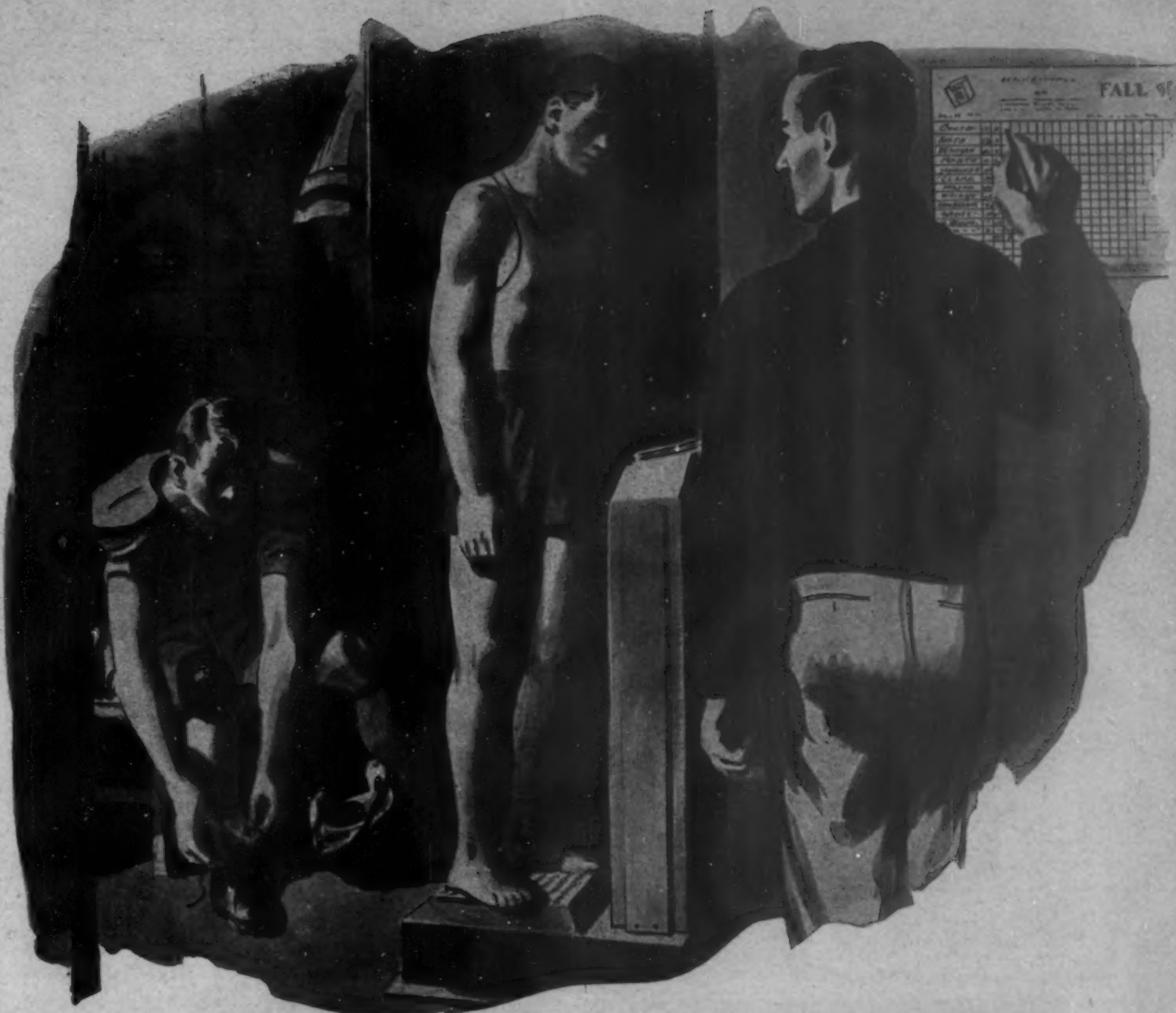
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September, 1940

² Frey, Bill, "Simplified Diets," *The First Aider*, November-December, 1938, p. 3.



A WEIGH TO HEALTH!

• An athlete who wants to know how "fine" he is, can find out by watching the scales. If his weight goes off, his game goes off. On the following pages trainers, coaches, and ambitious boys who intend to be athletic stars will find a convenient weight chart. This chart, prepared by the Charles B. Knox Gelatine Company, Inc., reduces the recording of necessary weight figures to its simplest form.

Whatever the underlying cause, the first weight reduction that goes up on a player's chart flashes a red light. For loss of weight and failure to regain weight cause an athlete to go stale. That's why a weight chart of this kind is so necessary. And since the chart is a barometer for a team, it gives the coach an opportunity to gauge the value of his training-table diet.

A carefully balanced diet must be planned for all three meals.

SAMPLE DAY'S MENU

BREAKFAST

Cereal, Fruit Juices, Toast, Eggs, Crisp Bacon, Milk.

LUNCH

Meat (lamb, beef, liver, veal or chicken), Potatoes, Green Vegetables, Whole-Wheat Bread, Milk, Light Dessert.

DINNER

Soup, Meat (beef or lamb), Green Vegetables, Bread, Milk or Tea, Light Dessert.

PRE-GAME MENU

(To be eaten at least 4 hours prior to contest)

Meat (Roast Beef underdone, or Lamb Chops, or Small Steak), Green Vegetables, Whole-Wheat Toast, Preserves, Weak Tea or Milk.

Such a diet is planned to add strength without creating excess weight, and to give the proper protein ration. It is important to guard against overeating. Therefore the regular training-table diet may be augmented with a gelatine drink known as the "Knox Endurance Drink." This pure plain gelatine is all protein, and when added to fruit juice it has a definite food value in drink form.

The athletes should take their gelatine drink immediately after their shower and rub. (The drink can be made available to them in the gym or locker room.)

The Knox Endurance Drink is not a stimulant or a quick "pick-up." It is a systematic aid in building the athlete's endurance and resistance. Good conditioning fights common colds and other disabilities that offset the best trainer's most carefully laid plans.

Knox Plain Unflavored Gelatine is the only gelatine which has been used in reported scientific investigations indicating it has helped increase endurance and strengthen resistance.

FRANK J. KAVANAGH, Trainer



Use Plus (+) or Minus (-) as Weight Changes

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ON THEIR TRAINING TABLES

Check Your Weight Regularly

[illegible][illegible]

Now, trainers in more than 200 colleges and universities from coast to coast make Knox Gelatine a "must" on their training tables (or in the locker rooms). Without exception, coaches and trainers are "sold" on the benefits of Knox as a fatigue fighting food!

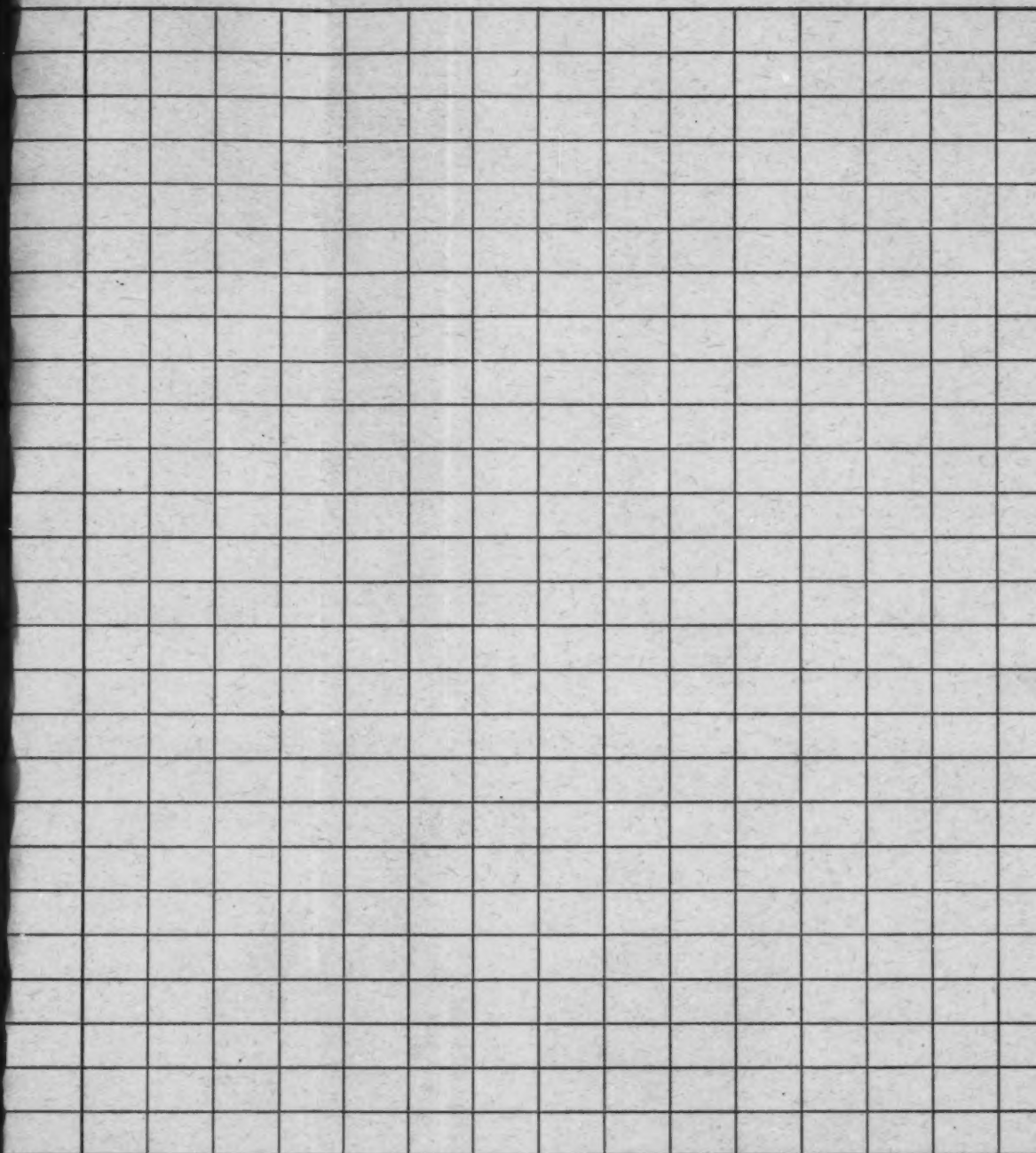
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WIGHT CHART

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THIS CHA

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KNOX GELATINE ROUTINE ATHLETES IN TRAINING

1. Two tablespoons twice a day for 10 days. Take before
period. Or, if squad has 2 practices a day, such as f
each practice.
2. Then, two tablespoons once a day. Take after game o
preferably after shower.
3. If an individual shows loss of weight, increase the fee
tablespoons a day.
4. The recommended way to take the gelatine is in plain wat
ture), or grapefruit juice, or grapefruit juice and wat
50-50; 4 oz. of water and 4 oz. of grapefruit juice. Pi
be substituted for grapefruit juice.
5. HOW TO MIX:
 - (a) Pour onto the liquid 2 level tablespoons of Knox
 - (b) Let liquid absorb the gelatine.
 - (c) Stir briskly and drink before it thickens.

THIS CHART IS EASILY REMOVED FROM THE MAGAZINE

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hickens.

Drink 4 envelopes of Knox Gelatine every day for 2 weeks, then 2 envelopes a day for 2 weeks. After that, as required. Pour 1 envelope (¼ pkg.) Knox into glass ¾ filled with water or fruit juice, not iced. Let liquid absorb gelatine. Stir and drink immediately. If it thickens, stir again.

TRAINING RULES FROM 4 TOP-NOTCH COACHES AND TRAINERS

HOW TO KEEP IN CONDITION

1. Start the season with light workouts, increasing your activity daily.
2. Try to make your workouts resemble game conditions as closely as possible.
3. Take two to three weeks for pre-season training.
4. Eat plenty of good wholesome food—get plenty of sleep—and work just enough, not too much.
5. Keep happy and contented by varying your work.
6. After hard competition, rebuild yourself by a short layoff, a full diet, and complete mental relaxation.
7. Relieve sore muscles by frequent rubs with reliable preparations.
8. An athlete wins on his feet. Watch your footgear, take care of bruises and blisters, bathe your feet regularly. Take every precaution to prevent athlete's foot.
9. Start the day with a warm shower, followed by cold, and a brisk rub-down with a coarse towel.
10. Use sanitary equipment of good quality.

WEIGHT AND ITS REGULATION

1. Weigh yourself daily and keep a chart.
2. After the first 10 days of team practice, your weight should be constant.
3. If you lose weight too rapidly, cut down on your exercise and eat more fats, sugars and starches. Drink more milk.
4. If you gain weight due to exercise, do not be disturbed. This is not excess weight, but a natural increase for you.
5. To maintain your proper weight, stick to a regular diet. Eat meat not more than twice a day, whole grain cereals once a day, and plenty of fresh fruits and vegetables.
6. Unless you are underweight, do not eat between meals and before going to bed.
7. During exercise, drink little or no water.
8. Do not reduce to make yourself eligible for a special weight class.
9. Remember, all weights given on charts are "average." Use them merely as a guide, and guard against too great a loss or gain.

CARE AND PREVENTION OF INJURIES

1. Two to three weeks of pre-season training is necessary before strenuous competition.
2. Build yourself carefully during this pre-season training, with emphasis on proper diet and SLOW conditioning.
3. Weigh yourself daily, and regulate your diet and exercise program in accordance with loss or gain in weight.
4. Use special exercises to strengthen trunk, legs, knees and ankles.
5. Wear equipment that will give you maximum protection.
6. Before starting training for any sport, be examined by a reliable physician to determine your fitness.
7. Sanitary equipment helps prevent boils and skin infections.
8. Proper treatment of bruises, abrasions, and wounds will prevent serious developments.
9. In case of injury, consult your physician promptly. Apply first aid at once.
10. Learn all you can about the methods used by successful athletes. They know many ways of preventing injuries in sports.

RULES FOR YOUR TRAINING TABLE

1. Select foods that build or repair tissues, supply energy, generate heat, and provide vital substances which are indispensable in the preservation of good health.
2. Tissue builders are meats, eggs, fish. Energy producing foods include sugar, whole-grain cereals, starches. Heat producing foods are butter, oils and meat fats. Essential constituents of the body cells are fruits, vegetables, meat and milk.
3. Regulate your heat producing foods by the climate you are in—less in warm climates and more in cold.
4. Do not overeat. Let your weight and size determine the amount of food you eat.
5. Eat your meals at regular hours—and relax after eating.
6. Drink plenty of water, but use it sparingly during exercise periods. Fruit juices help to relieve that "thirsty" feeling.
7. Milk is a nourishing and easily digested beverage.
8. Vary your diet. This helps you to obtain important minerals and vitamins.
9. If you lack appetite, watch out for staleness. Missing a meal occasionally may do you more good than harm.
10. Be rested when you come to the table. Cultivate leisurely eating.



TRY THIS to Increase ATHLETES' ENDURANCE!

Make KNOX GELATINE a "Must" on Your Training Table NOW!

During the past year, leading coaches and trainers all over the country tested the endurance building power of plain unflavored Knox Gelatine, taken as a drink. Here are the amazing results that prompted them to add Knox to their training tables (or feed it in locker rooms).

1. They said teams drinking Knox Gelatine had added endurance, extra *comeback* that noticeably cut down errors and frequently piled up winning points.
2. Trainers reported remarkable—also complete—immunity to colds when squads received Knox regularly.
3. Weight charts showed less weight loss by players during competition, and quicker recovery of lost fluids in individuals trained on Knox Gelatine.

In addition to Knox-for-Endurance tests among athletes, group tests have been conducted among hundreds of men and women in many kinds of jobs. 2 out of 3 who tried, and 9 out of 10 who completed the 28-day Knox routine reported fatigue was reduced!

Try this simple Knox Endurance Routine for your athletes. While Knox cannot make a team win, it does give **ADDED** endurance that often makes high scores.

Always Insist on KNOX!

But remember Knox—and only Knox—has been used in the hundreds of tests which indicate its endurance power. Cheap, unknown substitutes or ready-flavored gelatine desserts (which are 85% sugar and only about 10% gelatine) will not do.

Knox Gelatine (U.S.P.) is *all* body-building protein. When making up your training-table menus, be sure to specify plain unflavored Knox Gelatine to build endurance, reduce tiredness!

FREE: For complete details of the Knox for Endurance story, write for Bulletin E, Knox Gelatine, Dept. 81, Johnstown, N. Y.



Get Knox Gelatine in the regular 4-envelope kitchen package, or the new money-saving 32-envelope package. At all leading grocers.

KNOX GELATINE—a Food That Fights Fatigue

Helping America

to make the most of

Playtime

Every athletic director, every coach, every member of a physical education staff occupies a key position in the development of America's preparedness program.

To you is entrusted the all-important job of showing as many American men, women and children as possible how to play and enjoy the fun and benefits of healthful sports participation—how to make the most of the playtime opportunities to be found in every American community.

To assist in fostering a great MAKE THE MOST OF PLAYTIME program, America's athletic equipment manufacturers, together with the suppliers of materials to the athletic industry, maintain The Athletic Institute.

Assisted by the jobbers and retailers of athletic equipment, this institute—a non-profit organization—is devoted entirely to the extension of wholesome athletic sports in America.

The Athletic Institute invites correspondence on recreational problems and welcomes suggestions to help in the unselfish promotion of sports participation.

***The* ATHLETIC INSTITUTE**

209 SOUTH STATE STREET
CHICAGO



while we—

—*Hope you had a nice vacation*



SPENT OUR SUMMER RECONDITIONING YOUR ATHLETIC EQUIPMENT

There were no vacations or even single days off for the IVORY SYSTEM employees this summer. We all had to get right in there and keep on plugging to get your Football Togs cleaned and fixed up on time.

Now we can relax a bit, while you athletic chaps get going on turning out winners. Good luck to you, and many thanks for providing such a busy summer for the IVORY SYSTEM squad.



Ivory System

Reconditioners of Athletic Equipment

PEABODY

MASSACHUSETTS